Ontario

Ministry of Transportation

'87 ontario road safety annual report

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Transportation

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minister's message

Ed Fulton

In the past five years, our accident rate in Ontario has remained relatively stable. This means that the number of accidents as a percentage of the population has not changed. However, as our population continues to grow, and as the number of licensed drivers continues to grow, the total number of accidents inevitably becomes larger. In 1987, although the accident rate did not alter significantly, there were 16,000 more accidents primarily because there was a greater number of road users. Each year, the total number of accidents and the resulting human and economic cost will continue to grow as the population grows. Therefore we must set our sights not on stabilizing the accident rate in Ontario, but on lowering it, bit by bit, year by year.

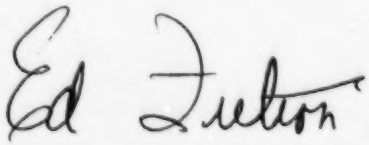
How can we do this? Over the years major improvements to the safety of vehicles have been made by improving crash worthiness, installing better warning systems, and maximizing vehicle standards. On our highways, we have utilized the best technology in crash barriers, roadway signing and lighting, and pavement surfaces. There is little left that can be substantially improved in the vehicle or on the roads. The government has put numerous programs in place to license and monitor road users and educate them about new laws and practices, and continues to evaluate and fine-tune these systems.

The key is with the individual road user — the driver, the pedestrian, the passenger — to bring the accident rate down. We must improve our attitudes as road users to be more safety conscious.

Only 70% of us are wearing our seatbelts even though we've been shown over and over again that this one small action has the best chance of saving our lives in an accident. The government will be tightening legislation to ensure that every vehicle occupant must be properly restrained and that no child will be put at such great risk as can now occur by sitting on someone's lap. People don't seem to take the time to do these small things.

There is more. We should turn on our car headlights during the day. This has been shown to improve visibility dramatically by allowing your vehicle to be seen from further away than a vehicle with no headlights on.

But, most important, we must change our attitudes as we move through traffic each day! Using the road system must be a co-operative venture — for the child who wants to get to school, for the employee who has to get to work, for the trucker who gets our goods to the stores. When our road system breaks down, we all pay. We must take pride in ownership of the road system and take an active role in ensuring that it runs smoothly, efficiently and safely. Be courteous, obey the laws, and stay alert.



Ed Fulton
Minister of Transportation

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1 overview

1a. synopsis

Approximately 6% of drivers in Ontario and 6.8% of vehicles in the province were involved in accidents during the year 1987.

Those fatally injured in motor vehicle accidents in 1987 numbered 1,229 and 121,089 people suffered varying degrees of personal injury. Of the fatally injured, drivers accounted for 545 deaths*, passengers 318, pedestrians 187, motorcycle drivers 120, motorcycle passengers 12, and other classes of road users for 47 deaths.

The number of accidents totalled 203,431 and involved 381,929 vehicles. Of all accidents, 1,085 resulted in at least one person being killed while in 80,432 accidents at least one person was injured.

The 25-34 year old age group was the age category with the most deaths (276). The 21-24 year old group had the next largest number of fatalities (157). Of the total number of fatalities, 78 were children under age 16.

In terms of alcohol involvement, tests for the presence of alcohol among drivers who were killed showed that 198 (30.6%) were legally impaired and 65 (10%) had consumed alcohol but were not found to be legally impaired.

*This does not include motorcycle drivers.

Selected Statistics

Total Reportable Accidents	203,431
Fatal Accidents	1,085
Personal Injury Accidents	80,432
Property Damage Accidents	121,914
Persons Killed	1,229
Drivers Killed	665
Drivers Killed (Impaired or Had Been Drinking)	263
Passengers Killed	318
Pedestrians Killed	187
Other Road Users Killed	59
Persons Injured	121,089
Estimated Ontario Population (1987)	9,270,700
Licensed Drivers	5,978,105
Registered Vehicles	5,634,965
Estimated Vehicle Kilometres Travelled (in millions)	71,646
Estimated Property Damage	$683,999,047
Number of Persons Killed in Motor Vehicle Accidents per 100,000 People in Ontario	13.3
Number of Persons Killed in Motor Vehicle Accidents per 100 Million Kilometres Travelled	1.7
Accident Rate per 100 Million Kilometres Travelled	283.9
Fatal Accident Rate per 100 Million Kilometres Travelled	1.5

1b. selected characteristics of motor vehicle accidents in 1987

Persons Killed and Injured
The number of persons killed in traffic accidents in 1987 was 1,229. Though this is an increase from the previous year, it remains within the range first established in 1982. Fatalities per registered driver have also remained fairly stable since 1982.

In 1987, the number of personal injuries rose sharply to 121,089 persons injured, the highest level ever recorded. The minimal and minor injury categories continued to account for the greatest proportion of the increase in reported injuries.

Non-occupants such as pedestrians and bicyclists were approximately 2% of those involved in motor vehicle accidents. About 1.9% of non-occupants involved in accidents were killed and 94% were injured; 0.2% of vehicle occupants (drivers and passengers) involved in accidents were killed and 18.8% were injured.

Road User Age
Young drivers continued to be over-represented in motor vehicle accidents relative to their share of the licensed driver population, while older drivers were under-represented. In 1987, drivers aged 20 years or younger comprised 6.9% of licensed drivers but 13.2% of drivers involved in accidents, while drivers 65 years of age and older (9.7% of drivers), were 4.9% of drivers involved in accidents.

Older drivers, though under-represented in all motor vehicle accidents, were over-represented in driver fatalities. In 1987, 12.5% of drivers killed were over 65 years of age. Older pedestrians were also over-represented in accidents. Although persons 65 years of age and older account for 11% of Ontario's population, 27.8% of pedestrian fatalities and 10.8% of pedestrian injuries involved these older adults. One reason for this over-representation is that recuperative powers decline with age.

Driver Action
The per cent of accidents involving drivers who were driving properly continued to hover around 44%. Failure to yield the right of way, speed too fast, loss of control and following too closely continued to be the most frequently reported driver errors in all accidents. Speed too fast was the leading driver action in fatal accidents and in 1987 was a factor in 20% of all fatal accidents. Speed too fast declined as a factor in motorcycle driver fatalities, accounting for 58% of these in 1987.

Alcohol Involvement
Alcohol involvement continued to be the leading non-normal driver condition reported in all accidents. In 1987, the actual number of alcohol involved drivers in accidents increased by 5.7%. However, as a share of the overall accident picture, alcohol involvement has declined. Alcohol involvement was reported in 40.6% of the drivers killed in 1987 (down from 46% in 1986, 47.1% in 1985 and 51% in 1984), and in 25.5% of the drivers involved in fatal accidents. 30.5% of pedestrians killed and 9.5% of pedestrians injured were alcohol involved.

Alcohol involvement in motorcycle driver fatalities has continued to decline. Accounting for 52% of motorcycle driver fatalities in 1985, and 46% in 1986, alcohol was a factor in 40% of motorcycle driver fatalities in 1987.

1c. the health perspective

Hospital Emergency Departments receive most people injured in motor vehicle accidents. The majority of those have sustained minimal or minor injuries and are therefore released without being admitted to hospital for in-patient care. However, people suffering major and severe injuries are admitted as in-patients. Detailed statistics are captured for in-patients and described below.

Between April 1, 1986 and March 31, 1987 there were 13,052 acute (short term) hospital admissions related to motor vehicle accidents.

The 13,052 acute hospital admissions resulted in 137,956 hospital days of stay during the fiscal year 1986-87, making the average stay per admission 10.6 hospital days.

According to data provided by the hospitals 5,622 patients underwent surgery in the course of their hospital treatment and 274 patients died in the hospital subsequent to their admission for in-patient care.

Ninety-five per cent of those hospitalized were Ontario residents, 3% were Quebec residents, and the rest of the patients were residents of other Canadian provinces and the United States.

Selected Diagnoses of Motor Vehicle Accident Injuries Hospitalized in Ontario, 1986/87

Selected Diagnoses	Hospital Admissions	Hospital Days of Stay
Fracture of skull	715	7,881
Fracture of neck and trunk	1,786	27,321
Fracture of upper limb	917	6,309
Fracture of lower limb	2,085	34,948
Dislocation, sprains and strains	681	4,031
Intracranial injury, excluding those with skull fracture	2,729	21,970
Internal injury of chest, abdomen and pelvis	670	8,329
Open wound of head, neck and trunk	554	2,344
Open wound of upper limb	86	483
Open wound of lower limb	150	1,376
Other injuries, burns and traumatic complications	2,679	22,964
Total Admissions and Days	**13,052**	**137,956**

Selected Surgical Procedures for Motor Vehicle Accident Injuries Hospitalized in Ontario, 1986/87

Selected Diagnoses	Hospital Admissions	Hospital Days of Stay
Operations on skull, brain and cerebral meninges	233	6,782
Operations on spinal cord and canal structures	83	1,706
Operations on nose, mouth and pharynx	120	697
Operations on chest wall, pleura, mediastinum and diaphragm	133	1,738
Operations on bone marrrow and spleen	135	3,000
Operations on kidney	144	1,313
Operation on facial bones and joints	252	2,960
Reduction of fracture and dislocation	2,315	35,176
Repair and plastic operations on joint structures	207	3,433
Operations on skin and subcutaneous tissue	1,008	6,507
Other surgical procedures	992	15,906
Sub-total of surgical admissions and days	**5,622**	**79,218**
No surgical procedures reported	**7,430**	**58,738**
Total Admissions and Days	**13,052**	**137,956**

1d. driver improvement in Ontario

The Need for Driver Improvement
As the number of vehicles on the roads has increased and as the transportation system has grown in complexity it has become increasingly important that drivers function at the top of their capabilities. New drivers, no matter how good their training, have much to learn that can only come through experience. Experienced drivers need to be reminded of good driving practices and taught new innovations. Drivers who choose not to abide by the rules of the road must be encouraged to change their behaviour.

Our society has come to view driving as a basic everyday occurrence and this familiarity has reduced awareness of the potential dangers. The importance of being the best driver possible has been lost.

In order to limit the number of accidents that occur each year on the roads, it is necessary to raise the level of competence and general attitude of the entire population towards highway safety. Over the past 30 years increasing attention has been paid to educating drivers to take the driving task more seriously. The focus has been primarily on attempts to correct the driving habits of those who have had a disproportionate number of accidents or traffic convictions. Letters, counselling sessions and suspensions have all been used to effect a positive impact on driver behaviour. Traditionally driver improvement/control has attempted to "correct" those drivers who continually ignore the laws of driving.

The Current System
Driver improvement programs by most common definitions are actions directed towards drivers who, in a given period of time, have had a disproportionate number of accidents or traffic convictions. The basic assumption underlying these actions is that changing the behaviour that led to the past accidents and convictions will prevent future accidents.

a) Demerit Point System
Since 1959 Ontario has assigned demerit points of varying levels for convictions for violations committed while a vehicle was in motion. There are a total of 28 pointable offences ranging from two to seven points each.

The point total starts at zero and accumulates over time. When drivers have accumulated six demerit points an advisory letter is issued, informing them of their record and urging them to improve their driving habits. At nine demerit points, drivers may be required to attend an interview with a counsellor in order to discuss their record and give reasons why their licence should not be suspended. They may also be asked to attend a defensive driving course, a group interview, or be put on probation. Drivers who accumulate 15 points are suspended for 30 days if it is their first accumulation and six months for subsequent accumulations.

b) Probationary System
In an effort to reduce the number of convictions and accidents involving new drivers, Ontario introduced the Probationary Driver System in 1981.

Every probationary driver must complete two 12 month probationary periods without licence suspensions other than medical and financial suspensions. In the latter cases, the probationary period continues after reinstatement.

On the first occasion that probationary drivers accumulate demerit points within a probationary period they receive a notice from the Ministry indicating the number of points on their record. At six demerit points the licence will be suspended for 30 days. Each subsequent suspension for accumulation of six points is also 30 days long. A new probationary period restarts when the suspension expires. Points on the driver's licence are reduced to zero after a suspension.

c) Collision Repeater Program
A collision repeater is defined as a driver who has been involved in three or more collisions within two years where at least some fault is attributed in at least two of the collisions, including the most recent. The current demerit point system only captures conviction histories because points are not assigned to accidents. Therefore, the collision repeater program was created to make sure that persons having frequent accidents did not miss driver improvement treatment programs.

Once collision repeaters have been identified, they are required to take a three part test (vision, written rules of the road and on-road tests) and to attend a driver improvement interview with a Ministry counsellor. Failure of any of the tests can result in license cancellation.

d) Suspension of Driving Privileges
There are a number of reasons, other than demerit point accumulation or unsatisfactory interview, that result in an individual not being allowed to drive.

Criminal code convictions result in a suspension of one year for a first offence, two years for a second offence within 5 years, and three years for a third offence within 5 years.

Certain Highway Traffic Act offences permit the court to order a period of suspension in addition to a fine. In such cases, demerit points are not applied to the driver's record and the period of suspension is at the discretion of the court.

When a driver fails to pay a fine for a traffic violation, after giving due notice to the individual, the court may issue an order through the Ministry of the Attorney General requiring suspension of the licence.

If a medical condition exists which impedes the ability to drive the licence can also be suspended.

New Initiatives

A Driver Improvement Coordinating Committee has been established within the Ministry of Transportation to plan and coordinate the development, implementation and evaluation of driver improvement initiatives.

The Committee is proceeding with the development of an adaptive driver improvement system which can be adjusted as change is needed. To reach this goal, several system components were needed, including a method of predicting accidents and an evaluation plan to examine the results of any changes made. From the study of accident prediction, preliminary results suggest that refinements to the existing demerit point system and the inclusion of accidents may make feasible the development of a system which will more accurately assess a driver's accident risk.

As an alternative to the current one-to-one interview at the nine demerit point level, a group meeting approach is being pilot tested. The current one-to-one interview is an intensive approach, whereas the group approach relies on an educative approach with the advantage of peer group interaction. Should the pilot test prove successful, the group approach could be adapted for other types of drivers; for example, elderly drivers, probationary drivers suspended for demerit points, drivers with frequent collision involvement, etcetera.

Future plans include the refinement of the existing letter notifying drivers of their demerit point totals, and of the refinement of the one-to-one diagnostic interview for drivers who continue to have problems following the group interview. As a result of the diagnostic interview, a specific set of actions could be developed for each driver and might include such activities as a defensive driving course or retrying certain licensing standards.

Options in Scope of Driver Improvement

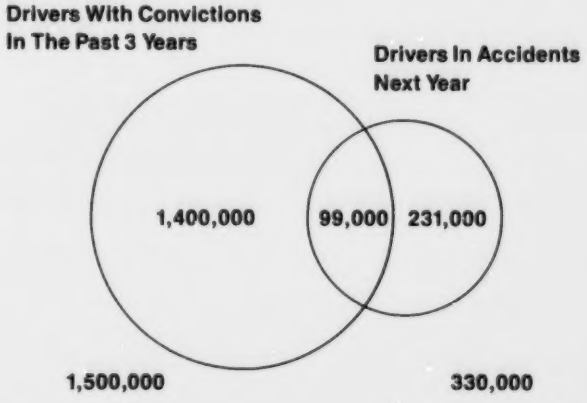
Driver improvement in Ontario, as in most jurisdictions, has largely dealt with post-licensing control, that is, monitoring begins once drivers come in conflict with the system through conviction or accident involvement. However the small group of high risk drivers who are impacted by the current driver improvement programs do not account for a large proportion of accidents. High risk (multiple conviction) drivers do have more than their share of accidents but many of the accidents in a year involve drivers with no recent convictions.

Of the approximately 330,000 drivers involved in accidents in Ontario annually, about 30% will have had previous convictions or accidents on record within the past three years (see diagram below). There is therefore a possible mechanism for identifying this 30% because of the entry of convictions on their record. The other 70% of accident involved drivers have no convictions on record and are as a result difficult to identify.

In other words, repeat violators are not the only ones responsible for accidents. Many accidents involve drivers who have not had accidents or violations before and will not have another accident in the immediate future. While it is important to recognize that there is merit in driver improvement programs which involve multiple conviction drivers, it must also be realized that treating the problem driver will not solve all the accident problems.

Many safety experts therefore suggest that the "improvement" stage should begin before licensing and should incorporate the objectives of prevention of accident and collision involvement. Incorporating preventive strategies into the instruction programs currently in use would impact the average driver along with the problem driver. This would mean finding better ways to permit more drivers to drive safely instead of removing greater numbers from driving. This would involve safety-oriented pre-licence training, safe driver performance licence standards, driver improvement treatments for below standard drivers, and more effective enforcement of licence restrictions.

In these areas, the Ministry has developed a new driver education course "Road Worthy" for use in Ontario secondary schools , is continuing research into more effective licence testing for class G and M drivers and has created material on good driving practices. But there is still much work needed in pre-licence training and post-licence countermeasures for drivers not identified by poor driving records. Through continued attempts to raise public awareness on the need for individuals to improve their driving and education about the complexity of driving, perhaps this everyday task will be taken more seriously, and the number of accidents on our roads will decrease.



Potential Impact of Driver Improvement System.

2 the people

In 1987, 1,229 people were killed in traffic accidents. Although this is an increase over 1986, the number killed is consistent with the totals seen across the years 1982-1986. Fatalities relative to increases in the driver population were also slightly higher than last year, but overall, fatalities per licensed driver have been declining since 1931 and again have been fairly stable since 1982.

Injuries in 1987 were at their highest level ever recorded. 121,089 people were injured in motor vehicle accidents. Though fatalities and injuries increased overall and for most categories of road users, motorcycle driver and passenger fatalities and injuries decreased again this year — down 5.8% from 1986.

Alcohol involvement in motor vehicle accidents also decreased again in 1987. This continues the downward trend in alcohol involvement which began in 1981. Alcohol involvement was reported in 40.6% of drivers killed in 1987, and alcohol had been consumed by 25.5% of drivers involved in fatal accidents.

2a. people in accidents

Table 2.1 **Category of Involved Person by Severity of Injury 1987**

Category of Involved Person	Severity of Injury None	Minimal	Minor	Major	Fatal	Total
Driver	287,983	39,583	20,822	4,183	545	**353,116**
Passenger*	182,580	22,903	13,954	2,739	318	**222,494**
Pedestrian	347	2,017	2,818	1,104	187	**6,473**
Bicyclist	140	2,598	2,127	368	34	**5,267**
Moped Driver	3	13	13	2	—	**31**
Motorcycle Driver	713	1,772	2,057	892	120	**5,554**
Motorcycle Passenger	170	273	384	141	12	**980**
Other	9,120	120	121	85	13	**9,459**
Total	**481,056**	**69,279**	**42,296**	**9,514**	**1,229**	**603,374**

*Includes Bus Passengers.

79.7% of persons involved in motor vehicle accidents had no injuries, a slight decrease from last year. Continuing the trend observed in previous years, the minimal and minor injury categories accounted for the greatest proportion of the increase in reported injuries.

Figure 2.1 **Persons Killed 1978-1987**

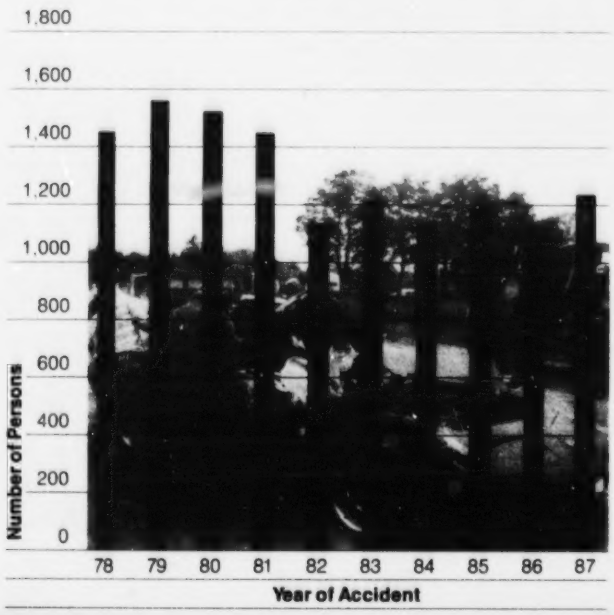


Table 2.2 **Category of Persons Killed by Age Groups 1987**

Category of Persons	Age Groups															Total
	0-4	5-15	16	17	18	19	20	21-24	25-34	35-44	45-54	55-64	65-74	75+	UK	
Driver	—	—	8	9	14	15	17	78	152	81	38	64	41	27	1	**545**
Passenger	12	20	8	13	12	18	14	38	68	27	19	23	25	21	—	**318**
Pedestrian	6	19	5	8	5	3	5	3	21	24	15	21	23	29	—	**187**
Bicyclist	1	14	4	2	2	—	—	5	1	—	1	2	1	1	—	**34**
Moped Driver	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	**—**
Motorcycle Driver	—	3	9	9	11	7	13	28	28	10	—	1	1	—	—	**120**
Motorcycle Passenger	—	—	—	1	1	—	—	2	4	3	1	—	—	—	—	**12**
Other	1	2	2	2	—	—	—	3	2	—	1	—	—	—	—	**13**
Total	**20**	**58**	**36**	**44**	**45**	**43**	**49**	**157**	**276**	**145**	**75**	**111**	**91**	**78**	**1**	**1,229**

Figure 2.2 **Persons Injured and Severity of Injury 1978-1987**

The number of minimal, minor and major injuries has continued to rise since 1982. However, as a per cent of the total number of injuries, the severity of injuries has remained stable.

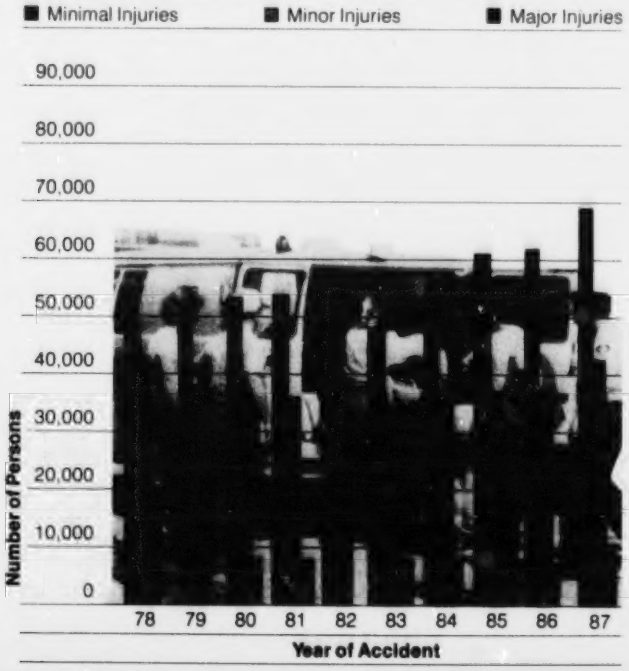


Figure 2.3 **Per Cent of Total Persons Killed by Age 1987**

30.4% of persons killed were between ages 16 and 25.

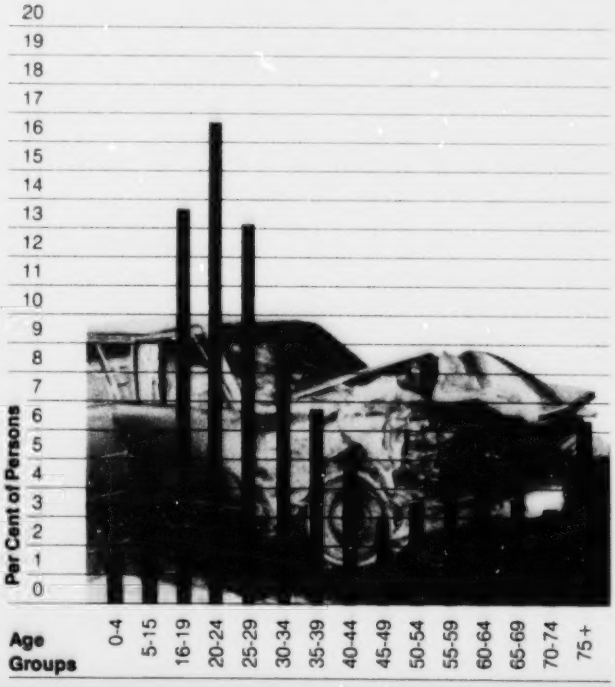
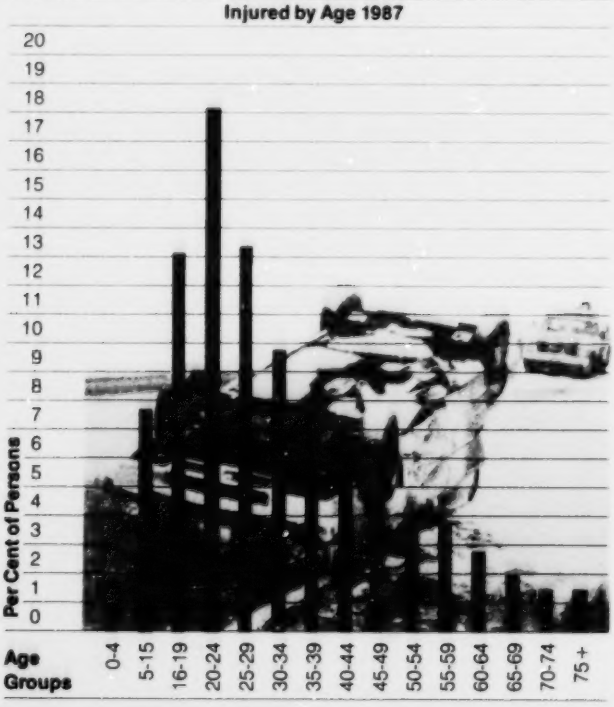


Table 2.3 **Category of Persons Injured by Age Groups 1987**

Category of Persons	Age Groups															Total
	0-4	5-15	16	17	18	19	20	21-24	25-34	35-44	45-54	55-64	65-74	75+	UK	
Driver	4	60	976	1,566	1,918	2,089	2,167	9,708	18,307	12,730	7,347	4,729	2,162	750	75	**64,588**
Passenger	1,767	5,713	1,437	1,610	1,643	1,490	1,471	5,145	6,996	4,081	2,975	2,477	1,618	779	394	**39,596**
Pedestrian	240	1,526	162	131	118	122	140	520	869	564	402	443	366	276	60	**5,939**
Bicyclist	23	1,852	284	210	180	195	172	636	693	202	69	68	31	20	458	**5,093**
Moped Driver	—	3	1	—	1	2	1	2	7	2	1	6	1	1	—	**28**
Motorcycle Driver	—	44	189	338	418	461	424	1,211	1,095	366	98	41	10	3	23	**4,721**
Motorcycle Passenger	3	68	56	75	82	81	67	169	135	35	14	3	1	—	9	**798**
Other	8	92	25	11	16	14	14	34	46	33	14	12	2	2	3	**326**
Total	**2,045**	**9,358**	**3,130**	**3,941**	**4,376**	**4,454**	**4,456**	**17,425**	**28,148**	**18,013**	**10,920**	**7,779**	**4,191**	**1,831**	**1,022**	**121,089**

Figure 2.4 **Per Cent of Total Persons Injured by Age 1987**



NOTE: Age groups in Tables 2.2 and 2.3 and Figures 2.3 and 2.4 have been recombined into groups of equal size, each covering a 5 year period. The exception to this rule occurs in the teen's category where the break occurs at age 16 to accommodate for age of driver licensure.

Table 2.4 Sex of Driver by Class of Accident 1987

Sex of Driver	Class of Accident			Total
	Fatal	Personal Injury	Property Damage	
Male	1,355	98,799	143,925	**244,079**
Female	344	41,692	55,221	**97,257**
Unknown	5	3,794	13,679	**17,478**
Total	**1,704**	**144,285**	**212,825**	**358,814**

Male drivers continue to be over-represented in motor vehicle accidents accounting for 68% of drivers involved in accidents in 1987 but only 55.5% of the licensed driver population. Of drivers involved in fatal accidents, 79.5% were male.

Table 2.5 Driver Condition by Class of Accident 1987

Condition of Driver	Class of Accident			Total
	Fatal	Personal Injury	Property Damage	
Normal	1,144	125,337	184,063	**310,544**
Had Been Drinking	147	5,731	5,096	**10,974**
Ability Impaired Alcohol	287	4,052	3,284	**7,623**
Ability Impaired Drugs	—	36	64	**100**
Fatigue	13	731	628	**1,372**
Medical or Physical Defect	8	420	302	**730**
Unknown	104	7,830	19,233	**27,167**
Other	1	148	155	**304**
Total	**1,704**	**144,285**	**212,825**	**358,814**

The percentage of alcohol involved drivers increased as the severity of the accident increased from property damage to fatal. In 1987, 3.9% of drivers in property damage accidents, 6.8% of drivers in injury accidents and 25.5% of drivers in fatal accidents were alcohol involved.

Figure 2.5 Per Cent Driver Condition in Fatal Accidents 1978-1987

Table 2.6 **Driver Age by Driver Condition in all Accidents 1987**

Driver Age	Driver Condition					Total
	Normal	Ability Impaired Alcohol	Had Been Drinking	Other	Unknown	
Under 16	334	9	19	6	37	**405**
16	5,085	34	111	41	173	**5,444**
17	8,371	78	249	56	261	**9,015**
18	9,370	147	389	98	329	**10,333**
19	9,635	230	620	104	355	**10,944**
20	9,906	268	663	120	361	**11,318**
21-24	44,008	1,459	2,525	425	1,567	**49,984**
25-34	86,225	2,764	3,684	596	2,896	**96,165**
35-44	59,786	1,379	1,493	313	1,638	**64,609**
45-54	35,773	701	674	220	911	**38,279**
55-64	25,071	412	366	203	622	**26,674**
65-74	12,330	115	126	188	319	**13,078**
75 & over	4,519	18	37	134	137	**4,845**
Unknown	131	9	18	2	17,561	**17,721**
Total	**310,544**	**7,623**	**10,974**	**2,506**	**27,167**	**358,814**

Table 2.7 **Recorded Occurrence of Alcohol in Drivers Killed 1987***

Recorded Occurrence	Drivers Number	Drivers %
Apparently Normal	384	59.4
Ability Impaired Alcohol	198	30.6
Had Been Drinking	65	10.0
Total	**647**	**100.0**

*Excludes cases where alcohol usage was unknown and cases where driver condition was other than normal or alcohol-involved.

Figure 2.6 **Per Cent Driver Condition in Personal Injury Accidents 1978-1987**

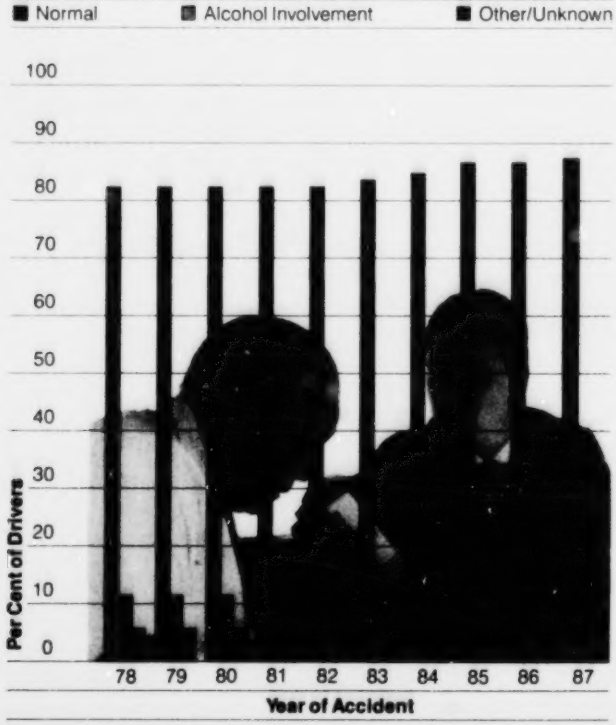


Figure 2.7 **Per Cent Recorded Alcohol Occurrence in Drivers Killed 1978-1987**

The trend since 1981 of decreased occurrence of alcohol in drivers killed continues, with the lowest usage of alcohol (40.6%) reported in 1987.

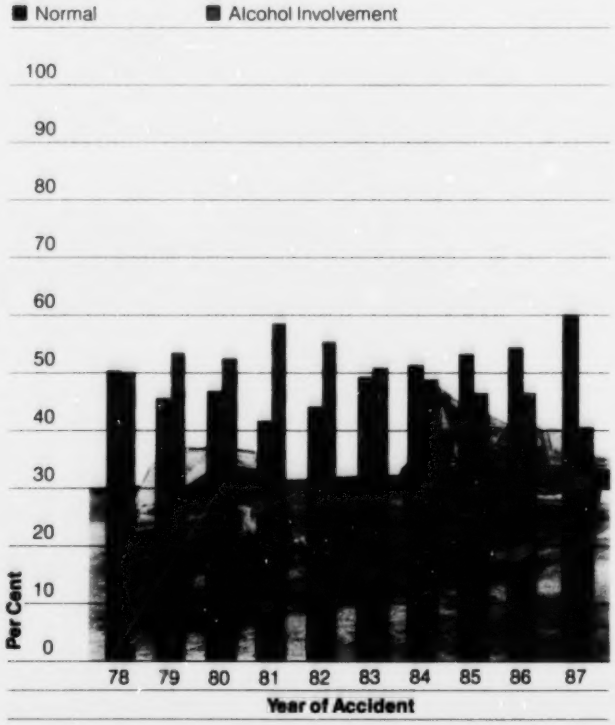


Table 2.8 **Apparent Driver Action by Class of Accident 1987**

Apparent Driver Action	Class of Accident			Total
	Fatal	Personal Injury	Property Damage	
Driving Properly	687	66,530	91,992	**159,209**
Following Too Close	13	10,008	11,394	**21,415**
Speed Too Fast	340	12,490	14,559	**27,389**
Improper Turn	32	4,442	9,831	**14,305**
Disobey Traffic Signal	17	3,753	3,993	**7,763**
Disobey Stop Sign	43	2,014	2,072	**4,129**
Fail to Yield Right of Way	123	13,924	24,875	**38,922**
Improper Passing	53	1,909	4,037	**5,999**
Lost Control	93	8,811	13,094	**21,998**
Wrong Way on One Way Road	4	125	189	**318**
Disobey Other Controls	7	61	74	**142**
Unknown	159	9,342	21,955	**31,456**
Other*	133	10,876	14,760	**25,769**
Total	**1,704**	**144,285**	**212,825**	**358,814**

*Includes actions defined as careless driving, inattentive driving, fell asleep, hit and run, wrong side of road, improper parking, impaired, illegally parked, dangerous driving, inexperience etc.

In 1987, 44.4% of drivers involved in all accidents and 40.3% of drivers involved in fatal accidents were driving properly. Failure to yield the right-of-way (10.8%), speed too fast (7.6%), loss of control (6.1%) and following too close (6.0%) continued to be the most frequently reported driver errors in all accidents.

In 1987, speed too fast was the most common error in 20% of fatal accidents.

Table 2.9 **Severity of Driver Injury by Seat Belt Usage 1987**

Severity of Injury	Seat Belt Usage						Total	
	Installed In-Use		Installed Not In Use & Not Installed		Usage Unknown			
	Number	%	Number	%	Number	%	Number	%
None	247,493	81.9	13,519	63.0	26,971	91.2	**287,983**	**81.5**
Minimal	35,208	11.6	3,328	15.5	1,047	3.5	**39,583**	**11.2**
Minor	16,810	5.6	3,050	14.2	962	3.2	**20,822**	**5.9**
Major	2,407	0.8	1,284	6.0	492	1.7	**4,183**	**1.2**
Fatal	194	0.1	268	1.3	83	0.3	**545**	**0.2**
Total	**302,112**	**100.0**	**21,449**	**100.0**	**29,555**	**100.0**	**353,116**	**100.0**

Table 2.10 **Severity of Passenger Injury by Seat Belt Usage 1987**

Severity of Injury	Seat Belt Usage						Total	
	Installed In-Use		Installed Not In Use & Not Installed		Usage Unknown			
	Number	%	Number	%	Number	%	Number	%
None	116,829	79.7	7,647	47.2	13,404	89.0	**137,880**	**77.6**
Minimal	18,510	12.6	3,722	23.0	671	4.5	**22,903**	**12.9**
Minor	9,735	6.6	3,570	22.0	649	4.3	**13,954**	**7.8**
Major	1,362	0.9	1,084	6.7	293	1.9	**2,739**	**1.5**
Fatal	85	0.1	183	1.1	50	0.3	**318**	**0.2**
Total	**146,521**	**100.0**	**16,206**	**100.0**	**15,067**	**100.0**	**177,794**	**100.0**

Eighty-six per cent of drivers were reported to be wearing seat belts when involved in crashes. Of these, a majority (82%) were not injured.

Those drivers not wearing seat belts when the collision occurred were 21 times more likely to be killed and 76 times more likely to be hospitalized than belted drivers.

Table 2.11 **Restraint Use for Children (0-4 Years) Killed 1983-1987**

Year	Restraint		No Restraint		Unknown		Total	
	Number	%	Number	%	Number	%	Number	%
1983	2	20.0	5	50.0	3	30.0	**10**	**100**
1984	3	27.3	8	72.7	—	0.0	**11**	**100**
1985	4	33.3	7	58.3	1	8.3	**12**	**100**
1986	7	58.3	5	41.7	—	0.0	**12**	**100**
1987	5	41.7	5	41.7	2	16.6	**12**	**100**

Table 2.12 **Restraint Use for Children (0-4 Years) Injured by Severity of Injury 1983-1987**

Year	% of Unrestrained		% of Restrained	
	Minimal/ Minor	Major/ Fatal	Minimal/ Minor	Major/ Fatal
1983	88.6	11.4	92.7	7.3
1984	90.7	9.2	96.4	3.6
1985	87.9	12.1	94.9	5.1
1986	89.3	10.7	94.8	5.2
1987	91.1	8.9	96.1	3.9

After introduction of legislation in 1982-83 requiring young children to be transported in child safety seats there was a noticeable drop in fatalities. However, this gain appears to have stabilized at 12 fatalities a year.

An examination of the fatalities indicates that in the majority of collisions where young restrained children were killed, others in the vehicle were also killed — in other words, some of the situations were not survivable.

However, in the majority of collisions where an unrestrained child was killed, no one else in the vehicle died, or in some cases was even injured.

Table 2.12 indicates that unrestrained children suffer a proportionately higher incidence of severe injury than correctly restrained children. Of concern, and not shown, is the increasing number of injuries (1,767) occurring in this age group. In 1987, more children under 5 years of age were injured as passengers than in any of the previous ten years.

Table 2.13 **Pedestrian Condition by Severity of Injury 1987**

Condition of Pedestrian	Killed	Injured
Normal	114	4,731
Had Been Drinking	16	386
Ability Impaired Alcohol	41	179
Ability Impaired Drugs	—	15
Fatigue	—	3
Medical or Physical Defect	2	87
Unknown	14	489
Other	—	49
Total	**187**	**5,939**

Pedestrians impaired by alcohol or who had been drinking accounted for 30.5% of pedestrians killed and 9.5% of pedestrians injured. These percentages are fairly consistent with previous years.

Table 2.14 **Apparent Pedestrian Action by Severity of Injury 1987**

Apparent Pedestrian Action	Killed	Injured
Crossing Intersection With Right of Way	16	1,273
Crossing Intersection Without Right of Way	13	451
Crossing Intersection No Traffic Control	7	133
Crossing Pedestrian Crossover	5	213
Walking on Roadway With Traffic	15	161
Walking on Roadway Against Traffic	6	99
On Sidewalk or Shoulder	7	399
Coming from Behind Parked Vehicle or Object	4	357
Playing or Working on Highway	3	105
Running Into Roadway	27	1,012
Crossing Through Traffic	51	884
Other	33	852
Total	**187**	**5,939**

Crossing through traffic (27.3%) and running into the roadway (14.4%) continued to be the most common pedestrian actions contributing to pedestrian fatalities. 21.4% of pedestrians injured were crossing an intersection with the right-of-way, while 17% ran into the roadway.

2b. putting the people in context

Table 2.15 Category of Persons Killed and Injured 1978-1987

Year	Ontario Population (Est.)	Category of Persons								Persons Killed In All Classes		Persons Injured In All Classes	
		Driver		Passenger*		Pedestrian		All Others			Rate Per		Rate Per
		Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured	Number	100,000	Number	100,000
1978	8,444,000	623	46,953	383	34,578	284	6,314	160	7,494	1,450	17.2	94,979	1,124.8
1979	8,546,000	668	50,618	468	36,332	273	6,436	151	7,935	1,560	18.3	101,321	1,185.6
1980	8,570,000	682	50,653	413	35,982	266	6,548	147	8,184	1,508	17.6	101,367	1,182.8
1981	8,625,000	657	50,574	393	34,450	237	6,344	158	8,953	1,445	16.8	100,321	1,163.1
1982	8,715,000	487	45,409	296	31,588	179	5,981	176	9,837	1,138	13.1	92,815	1,065.0
1983	8,816,000	528	45,440	302	30,283	204	5,618	170	10,365	1,204	13.7	91,706	1,040.2
1984	9,024,000	460	48,674	282	31,865	189	5,767	201	10,924	1,132	12.5	97,230	1,077.5
1985	9,066,000	502	55,859	333	35,717	182	6,099	174	11,494	1,191	13.1	109,169	1,204.2
1986	9,181,900	511	57,233	289	34,915	153	5,781	149	10,910	1,102	12.0	108,839	1,185.4
1987	9,270,700	545	64,588	318	39,596	187	5,939	179	10,966	1,229	13.3	121,089	1,306.2

*Excludes motorcycle passengers. Motorcycle passengers are included with "all others".

The number of persons injured and killed has shown an increase since 1986, however, the rate of fatalities per 100,000 population has remained relatively stable since 1982.

Table 2.16 Sex of Driver Population by Age Groups 1987

Sex of Driver	Age Groups							Total
	16-19	20-24	25-34	35-44	45-54	55-64	65 +	
Male	173,548	365,963	821,516	697,032	487,279	416,013	354,538	**3,315,889**
Female	132,338	296,394	723,410	609,821	378,743	292,852	228,658	**2,662,216**
Total	**305,886**	**662,357**	**1,544,926**	**1,306,853**	**866,022**	**708,865**	**583,196**	**5,978,105**

Table 2.17 **Driver Population Age Groups 1978-1987**

Year	Age Groups							Total
	16-19	20-24	25-34	35-44	45-54	55-64	65 +	
1978	333,929	625,774	1,231,844	882,939	749,350	541,028	360,682	**4,725,546**
1979	352,617	636,554	1,264,128	912,519	755,093	559,011	378,429	**4,858,351**
1980	345,077	647,805	1,300,738	943,540	764,368	584,173	407,830	**4,993,471**
1981	354,492	659,144	1,313,592	990,806	771,931	604,892	428,320	**5,123,177**
1982	342,136	670,118	1,328,974	1,051,422	779,235	628,131	447,182	**5,247,198**
1983	320,478	682,033	1,359,350	1,103,403	792,933	650,687	471,375	**5,380,259**
1984	300,364	689,476	1,396,560	1,155,421	806,207	671,271	494,612	**5,513,911**
1985	293,908	687,467	1,443,327	1,205,614	820,397	685,640	524,069	**5,660,422**
1986	295,107	676,283	1,494,658	1,257,724	840,322	697,254	556,451	**5,817,799**
1987	305,886	662,357	1,544,926	1,306,853	866,022	708,865	583,196	**5,978,105**

The greatest growth in the driving population has continued to be in the 25-34 and 35-44 age categories and the greatest decline has continued to be in the 20-24 age category.

Table 2.18 **Driver Licence Class by Sex 1987**

License Class	Driver Sex				Total	%
	Male	%	Female	%		
A	79,095	2.38	632	0.02	**79,727**	**1.33**
AM	24,574	0.74	106	0.00	**24,680**	**0.41**
AB	3,339	0.10	185	0.00	**3,524**	**0.05**
AC	9,984	0.30	113	0.00	**10,097**	**0.16**
ABM	1,460	0.04	63	0.00	**1,523**	**0.02**
ACM	4,300	0.12	29	0.00	**4,329**	**0.07**
B	15,842	0.47	13,003	0.48	**28,845**	**0.48**
BM	3,791	0.11	634	0.02	**4,425**	**0.07**
C	8,907	0.26	403	0.01	**9,310**	**0.15**
CM	2,199	0.06	33	0.00	**2,232**	**0.03**
D	172,588	5.20	5,146	0.19	**177,734**	**2.97**
DM	35,682	1.07	325	0.01	**36,007**	**0.60**
DE	80	0.00	18	0.00	**98**	**0.00**
DF	2,317	0.06	67	0.00	**2,384**	**0.03**
DEM	18	0.00	1	0.00	**19**	**0.00**
DFM	893	0.02	10	0.00	**903**	**0.01**
E	1,238	0.03	2,297	0.08	**3,535**	**0.05**
EM	144	0.00	45	0.00	**189**	**0.00**
F	9,013	0.27	4,920	0.18	**13,933**	**0.23**
FM	2,212	0.06	281	0.01	**2,493**	**0.04**
G	2,625,817	79.18	2,592,545	97.38	**5,218,362**	**87.29**
GM	306,905	9.25	40,532	1.52	**347,437**	**5.81**
M	5,491	0.16	828	0.03	**6,319**	**0.10**
Total	**3,315,889**	**100.0**	**2,662,216**	**100.00**	**5,978,105**	**100.00**

Table 2.19 **Licensed Drivers, Total Accidents, Persons Killed and Injured 1931-1987**

Year	Licensed Drivers	Total Accidents	Persons Killed	Persons Injured
1931	666,266	9,241	571	8,494
1932	648,710	9,171	502	8,231
1933	638,710	8,634	403	7,877
1934	665,743	9,645	512	8,990
1935	707,457	10,648	560	9,839
1936	755,765	11,388	546	10,251
1937	802,765	13,906	766	12,092
1938	866,729	13,715	640	11,683
1939	899,572	13,710	652	11,638
1940	937,551	16,921	716	13,715
1941	986,773	18,167	801	14,275
1942	961,883	13,490	567	10,205
1943	919,457	11,025	549	8,628
1944	905,650	11,004	498	8,373
1945	971,852	13,458	598	9,804
1946	1,087,445	17,356	688	12,228
1947	1,144,291	22,293	734	13,056
1948	1,209,408	27,406	740	14,970
1949	1,278,584	34,472	830	17,469
1950	1,366,388	43,681	791	19,940
1951	1,461,538	54,920	949	22,557
1952	1,556,559	58,515	1,010	23,643
1953	1,656,259	65,866	1,082	24,353
1954	1,747,567	62,509	1,045	24,607
1955	1,856,845	63,219	1,111	26,246
1956	1,967,789	71,399	1,180	28,626
1957	2,088,551	76,302	1,279	30,414
1958	2,176,417	76,884	1,112	30,106
1959	2,270,246	81,518	1,187	31,602
1960	2,355,567	87,186	1,166	34,436
1961	2,414,615	85,577	1,268	37,146
1962	2,469,425	94,231	1,383	41,766
1963	2,555,015	104,919	1,421	47,801
1964	2,694,023	111,232	1,424	54,560
1965	2,739,138	128,462	1,611	60,917
1966	2,821,648	139,781	1,596	65,210
1967	3,004,654	145,008	1,719	67,280
1968	3,128,509	155,127	1,586	71,520
1969	3,247,979	169,395	1,683	74,902
1970	3,422,892	141,609	1,535	75,126
1971	3,563,197	158,831	1,769	84,650

Table 2.19 Licensed Drivers, Total Accidents, Persons Killed and Injured 1931-1987

Year	Licensed Drivers	Total Accidents	Persons Killed	Persons Injured
1972	3,688,541	189,494	1,934	95,181
1973	3,841,628	193,021	1,959	97,790
1974	3,972,980	204,271	1,748	98,673
1975	4,160,623	213,689	1,800	97,034
1976	4,315,925	211,865	1,511	83,736
1977	4,562,903	218,567	1,420	95,664
1978	4,725,546	286,363	1,450	94,979
1979	4,858,351	197,196	1,560	101,321
1980	4,993,531	196,501	1,508	101,367
1981	5,123,177	198,372	1,445	100,321
1982	5,247,198	187,943	1,138	92,815
1983	5,380,259	181,999	1,204	91,706
1984	5,513,911	194,782	1,132	97,230
1985	5,660,422	189,750	1,191	109,169
1986	5,817,799	187,286	1,102	108,839
1987	5,978,105	203,431	1,229	121,089

In 1987, the number of accidents reached a 10 year high. However, both the accident rate per million kilometres travelled (2.8) and the accident rate per 100 registered motor vehicles (3.6) continued to improve and were significantly lower than the 1977 rates of 3.3 and 5.0 respectively.

Table 2.20 Original Licences Issued 1983-1987

Year	Original Licences
1983	209,682
1984	209,675
1985	224,513
1986	231,697
1987	257,372

Table 2.21 Temporary Licence Permits Issued for Class L's and Class R's 1983-1987

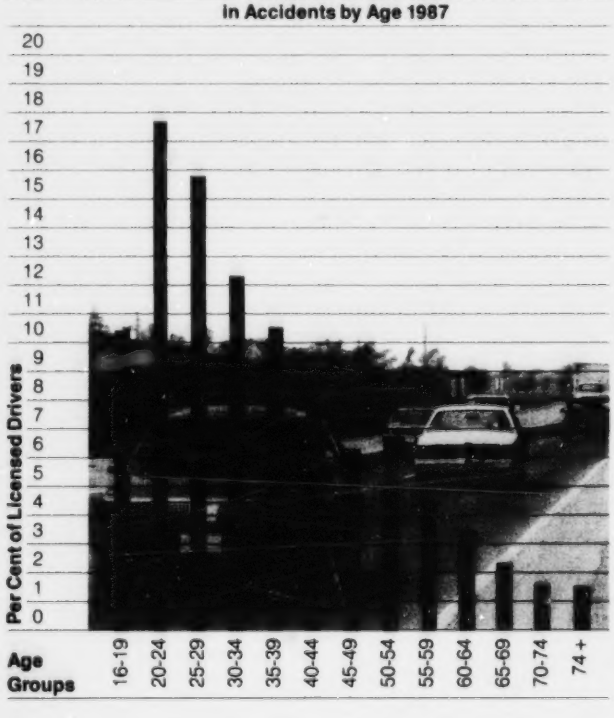
Year	Licence Permits	
	L	R
1983	336,808	44,404
1984	342,045	45,672
1985	352,908	43,967
1986	369,626	42,032
1987	348,866	38,426

Table 2.22 **Driver Age Groups — Number Licensed, Accident Involvement and Per Cent Involved in Accidents 1987**

Driver's Age	Drivers Licensed			Drivers Involved in Accidents			% of Drivers of Each Age Involved in Accidents		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 16	—	—	—	328	77	**405**	—	—	—
16	19,907	13,528	**33,435**	3,740	1,704	**5,444**	18.8	12.6	**16.3**
17	44,586	33,796	**78,382**	6,280	2,735	**9,015**	14.1	8.1	**11.5**
18	52,511	40,768	**93,279**	7,428	2,905	**10,333**	14.1	7.1	**11.1**
19	56,544	44,246	**100,790**	8,079	2,865	**10,944**	14.3	6.5	**10.9**
20	60,598	47,651	**108,249**	8,399	2,919	**11,318**	13.9	6.1	**10.5**
21-24	305,365	248,743	**554,108**	36,691	13,293	**49,984**	12.0	5.3	**9.0**
25-34	821,516	723,410	**1,544,926**	68,548	27,617	**96,165**	8.3	3.8	**6.2**
35-44	697,032	609,821	**1,306,853**	43,757	20,852	**64,609**	6.3	3.4	**4.9**
45-54	487,279	378,743	**866,022**	27,586	10,693	**38,279**	5.7	2.8	**4.4**
55-64	416,013	292,852	**708,865**	19,899	6,775	**26,674**	4.8	2.3	**3.8**
65-74	258,370	177,694	**436,064**	9,509	3,569	**13,078**	3.7	2.0	**3.0**
75 & Over	96,168	50,964	**147,132**	3,637	1,208	**4,845**	3.8	2.4	**3.3**
Unknown	—	—	—	—	—	**17,721**	—	—	—
Total	**3,315,889**	**2,662,216**	**5,978,105**	**243,881**	**97,212**	**358,814**	**7.4**	**3.7**	**6.0**

Accident involvement rates decreased as driver age increased. Accident involvement for both males and females was highest at age 16.

Figure 2.8 **Per Cent of Licensed Drivers Involved in Accidents by Age 1987**



3 the accident

1987 showed a marked increase in the number of reportable accidents. However, the accident rate per 1 million kilometres travelled has remained steady since 1978.

71.7% of reportable accidents resulted from collisions with other vehicles.

More fatal accidents occurred during June to October than any other period. Also, 37% of these accidents were on a Friday or Saturday.

Although most accidents occurred during daylight (66.3%), 50.7% of fatal accidents occurred in darkness.

3a. types of accidents

Table 3.1 Class of Accident 1978-1987

Year	Class of Accident			Total
	Fatal	Personal Injury	Property Damage	
1978	1,263	62,664	122,436	**186,363**
1979	1,316	67,201	128,679	**197,196**
1980	1,296	67,391	127,814	**196,501**
1981	1,234	67,292	129,846	**198,372**
1982	997	62,956	123,990	**187,943**
1983	1,042	62,735	118,222	**181,999**
1984	1,011	66,101	127,670	**194,782**
1985	1,036	73,840	114,874	**189,750**
1986	951	73,703	112,632	**187,286**
1987	1,085	80,432	121,914	**203,431**

In spite of an upturn in the number of reportable accidents in 1987, the overall accident level has remained stable since 1978. In 1982, there was a sharp decline in the number of fatal accidents, but since then, the number has remained steady. Personal injury accidents showed a marked increase but this can be attributed to increased reporting of minimal and minor injuries. Property damage accidents only changed slightly.

Table 3.2 Accident Rate Per One Million Kilometres Travelled 1978-1987

Year	Accident Rate
1978	2.7
1979	2.7
1980	2.7
1981	2.8
1982	2.9
1983	2.8
1984	2.9
1985	2.8
1986	2.7
1987	2.8

Table 3.3 **Accident Involving Motor Vehicle by Class of Accident 1987**

Accident Involving Motor Vehicle and Moveable Objects:	Class of Accident Fatal	Personal Injury	Property Damage	Total
Other Motor Vehicle/s	495	52,027	93,330	**145,852**
Pedestrian	181	5,353	4	**5,538**
Cyclist	35	4,951	50	**5,036**
Railway Train	11	67	50	**128**
Street Car	—	77	247	**324**
Farm Tractor	4	73	112	**189**
Animal	2	345	3,403	**3,750**
Other Moveable Object	4	141	239	**384**
Sub-total	**732**	**63,034**	**97,435**	**161,201**
Fixed Objects				
Restraining Barrier	30	1,568	3,960	**5,558**
Rigid Pole	31	1,764	2,795	**4,590**
Breakaway Pole	7	448	977	**1,432**
Tree	35	1,120	1,437	**2,592**
Post	19	638	1,547	**2,204**
Fence	10	387	936	**1,333**
Culvert	11	408	261	**680**
Bridge Support	5	175	243	**423**
Rock Face	18	400	437	**855**
Snow Bank or Drift	1	275	479	**755**
Ditch	96	4,804	4,425	**9,325**
Curb	17	1,031	1,505	**2,553**
Crash Cushion	2	27	52	**81**
Building or Wall	3	156	368	**527**
Other Fixed Object	27	1,118	2,085	**3,230**
Sub-total	**312**	**14,319**	**21,507**	**36,138**
Other Circumstances:				
Fire/Explosion	—	22	632	**654**
Submersion	—	5	11	**16**
Rollover	35	1,628	901	**2,564**
Other Non-Collision Event	6	1,424	1,428	**2,858**
Sub-total	**41**	**3,079**	**2,972**	**6,092**
Total	**1,085**	**80,432**	**121,914**	**203,431**

By far the largest number of reportable accidents resulted from collisions with other motor vehicles (71.7%).
Collisions with moveable objects accounted for 79.2% of all accidents. Collisions with fixed objects accounted for 17.8% of all accidents and accidents involving "other circumstances" accounted for 3.0%. Fatal accidents showed slightly different proportions with 67.5% involving moveable objects, 28.8% involving fixed objects and 3.8% involving "other circumstances". It should be noted that almost all accidents involving a pedestrian or cyclist resulted in personal or fatal injury.

Table 3.4 **Initial Impact Type by Class of Accident 1987**

Initial Impact Type	Class of Accident Fatal	Personal Injury	Property Damage	Total
Rear End	70	23,378	25,104	**48,552**
Angle	135	16,157	27,597	**43,889**
Turning Movement	62	9,657	16,453	**26,172**
Sideswipe	20	4,013	17,124	**21,157**
Approaching	253	3,925	5,350	**9,528**
Single Motor Vehicle	544	22,969	27,497	**51,010**
Other	1	333	2,789	**3,123**
Total	**1,085**	**80,432**	**121,914**	**203,431**

The main initial impact type was single motor vehicle (25%), rear end impact (24%), and angle impact (22%). Half of all fatal accidents involved a single motor vehicle.

3b. time and environment

Table 3.5 Month of Occurrence by Class of Accident 1987

Month of Occurrence	Class of Accident						Total	%
	Fatal	%	Personal Injury	%	Property Damage	%		
January	61	5.6	6,096	7.6	12,734	10.4	**18,891**	**9.3**
February	68	6.3	4,947	6.1	9,640	7.9	**14,655**	**7.2**
March	57	5.2	4,907	6.1	8,526	7.0	**13,490**	**6.6**
April	59	5.4	5,518	6.9	7,725	6.3	**13,302**	**6.5**
May	98	9.0	6,940	8.6	9,216	7.6	**16,254**	**8.0**
June	112	10.3	7,915	9.8	9,549	7.8	**17,576**	**8.6**
July	127	11.7	7,729	9.6	9,478	7.8	**17,334**	**8.5**
August	118	10.9	7,772	9.7	9,621	7.9	**17,511**	**8.6**
September	107	9.9	7,475	9.3	9,916	8.1	**17,498**	**8.6**
October	111	10.2	7,806	9.7	11,410	9.3	**19,327**	**9.5**
November	94	8.7	6,969	8.7	12,303	10.1	**19,366**	**9.5**
December	73	6.7	6,358	7.9	11,796	9.7	**18,227**	**9.0**
Total	**1,085**	**100.0**	**80,432**	**100.0**	**121,914**	**100.0**	**203,431**	**100.0**

June to October were the worst months for fatal accidents with 32.9% occurring during that time. October to January was the worst period for property damage accidents.

Figure 3.1 Accidents by Season of Occurrence and Class of Accident in 1987

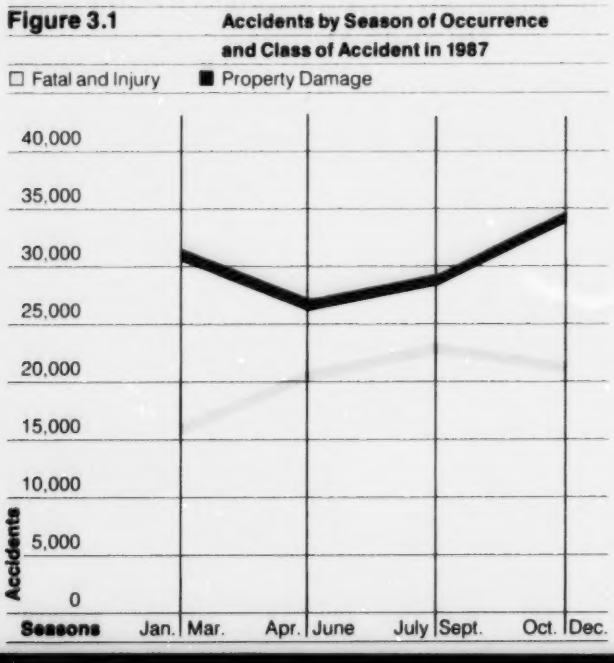


Table 3.6 Day of Week by Class of Accident 1987

Day of Occurrence	Class of Accident						Total	
	Fatal	%	Personal Injury	%	Property Damage	%		
Sunday	163	15.0	9,506	11.8	13,229	10.9	**22,898**	**11.3**
Monday	120	11.1	10,488	13.0	16,088	13.2	**26,696**	**13.1**
Tuesday	135	12.4	11,190	13.9	17,578	14.4	**28,903**	**14.2**
Wednesday	138	12.7	10,894	13.5	16,625	13.6	**27,657**	**13.6**
Thursday	128	11.8	11,353	14.1	17,532	14.4	**29,012**	**14.3**
Friday	191	17.6	14,360	17.9	22,569	18.5	**37,120**	**18.2**
Saturday	210	19.4	12,642	15.7	18,293	15.0	**31,145**	**15.3**
Total	**1,085**	**100.0**	**80,432**	**100.0**	**121,914**	**100.0**	**203,431**	**100.0**

A larger proportion of fatal accidents occurred on Saturday (19.4%) and during the night time hours of 6 p.m. to 6 a.m. (51.9%). Total accidents occurred with greatest frequency on Friday (18.2%) and between 6 a.m. and 6 p.m. (66%).

Table 3.7 Hour of Occurrence by Class of Accident 1987

Hour of Occurrence A.M.	Class of Accident						Total	
	Fatal	%	Personal Injury	%	Property Damage	%		
12 to 1 a.m.	57	5.3	1,676	2.1	2,478	2.0	**4,211**	**2.1**
1 to 2 a.m.	77	7.1	2,267	2.8	2,987	2.5	**5,331**	**2.6**
2 to 3 a.m.	56	5.2	1,413	1.7	1,968	1.6	**3,437**	**1.7**
3 to 4 a.m.	18	1.6	797	1.0	1,197	1.0	**2,012**	**1.0**
4 to 5 a.m.	16	1.5	512	0.6	799	0.6	**1,327**	**0.7**
5 to 6 a.m.	15	1.4	558	0.7	853	0.7	**1,426**	**0.7**
Sub total	**239**	**22.0**	**7,223**	**9.0**	**10,282**	**8.4**	**17,744**	**8.7**
6 to 7 a.m.	32	2.9	1,614	2.0	2,512	2.1	**4,158**	**2.0**
7 to 8 a.m.	31	2.9	3,013	3.7	5,273	4.3	**8,317**	**4.1**
8 to 9 a.m.	34	3.1	4,328	5.4	6,877	5.6	**11,239**	**5.5**
9 to 10 a.m.	29	2.7	2,848	3.5	5,083	4.2	**7,960**	**3.9**
10 to 11 a.m.	29	2.7	3,059	3.8	5,315	4.3	**8,403**	**4.1**
11 to 12 a.m.	35	3.2	3,791	4.7	6,261	5.1	**10,087**	**5.0**
Sub total	**190**	**17.5**	**18,653**	**23.2**	**31,321**	**25.7**	**50,164**	**24.6**
Hour of Occurrence P.M.								
12 to 1 p.m.	46	4.2	4,506	5.6	6,909	5.7	**11,461**	**5.6**
1 to 2 p.m.	40	3.7	4,391	5.5	6,788	5.6	**11,219**	**5.5**
2 to 3 p.m.	36	3.3	4,985	6.2	7,408	6.1	**12,429**	**6.1**
3 to 4 p.m.	69	6.4	6,380	7.9	9,338	7.7	**15,787**	**7.8**
4 to 5 p.m.	59	5.4	7,094	8.8	10,389	8.5	**17,542**	**8.6**
5 to 6 p.m.	79	7.3	6,576	8.2	9,217	7.6	**15,872**	**7.8**
Sub total	**329**	**30.3**	**33,932**	**42.2**	**50,049**	**41.1**	**84,310**	**41.4**
6 to 7 p.m.	61	5.6	5,019	6.2	6,966	5.7	**12,046**	**5.9**
7 to 8 p.m.	55	5.0	4,151	5.2	5,667	4.6	**9,873**	**4.8**
8 to 9 p.m.	57	5.3	3,304	4.1	4,691	3.8	**8,052**	**4.0**
9 to 10 p.m.	46	4.2	2,915	3.6	4,250	3.5	**7,211**	**3.5**
10 to 11 p.m.	53	4.9	2,552	3.2	3,620	3.0	**6,225**	**3.1**
11 to 12 p.m.	52	4.8	2,379	2.9	3,420	2.8	**5,851**	**2.9**
Sub total	**324**	**29.9**	**20,320**	**25.3**	**28,614**	**23.5**	**49,258**	**24.2**
Unknown	3	0.3	304	0.4	1,648	1.3	**1,955**	**1.0**
Total	**1,085**	**100.0**	**80,432**	**100.0**	**121,914**	**100.0**	**203,431**	**100.0**

Table 3.8 **Statutory Holidays, Holiday Weekends — Fatal Accidents, Persons Killed and Persons Injured 1987**

Statutory Holiday	Number of Fatal Accidents	Drivers		Passengers		Others		Total	
		Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured
Easter Weekend	14	10	4	5	7	2	—	**17**	**11**
Victoria Day	9	9	2	—	7	—	—	**9**	**9**
Canada Day	6	4	2	2	2	—	—	**6**	**4**
Civic Holiday (Simcoe Day)	18	12	9	10	22	1	—	**23**	**31**
Labour Day	14	9	4	4	5	2	—	**15**	**9**
Thanksgiving Day	12	9	5	5	6	1	—	**15**	**11**
Christmas/Boxing Day*	9	4	5	3	14	2	—	**9**	**19**

On average three day weekend periods (Friday 6 p.m. to Monday midnight) for the summer, winter seasons and the whole year, 17.5, 12.5,and 15.0 people were killed respectively.

*In 1987, this holiday period extended over a weekend and therefore encompassed a four day period.

Figure 3.2 **Light Condition for All Accidents 1987**

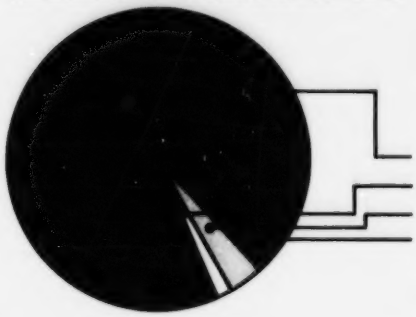


Table 3.9 **Light Condition by Class of Accident 1987**

Light Condition	Class of Accident						Total	%
	Fatal	%	Personal Injury	%	Property Damage	%		
Daylight	540	49.8	54,132	67.3	80,302	65.9	**134,974**	**66.3**
Dawn	20	1.8	1,088	1.4	1,885	1.5	**2,993**	**1.5**
Dusk	39	3.6	2,925	3.6	4,534	3.7	**7,498**	**3.7**
Darkness	486	44.8	22,287	27.7	35,193	28.9	**57,966**	**28.5**
Total	**1,085**	**100.0**	**80,432**	**100.0**	**121,914**	**100.0**	**203,431**	**100.0**

Although most accidents occurred during daylight (66.3%), only 49.8% of fatal accidents occurred in daylight.

Figure 3.3 **Visibility for for All Accidents 1987**

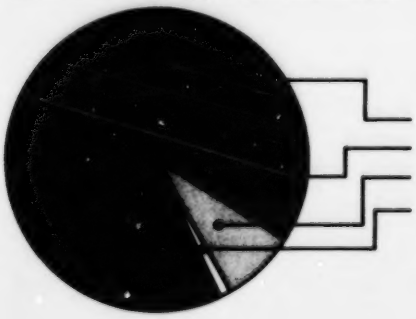


Table 3.10 **Visibility by Class of Accident 1987**

Visibility	Class of Accident						Total	%
	Fatal	%	Personal Injury	%	Property Damage	%		
Clear	926	85.3	64,397	80.1	94,787	77.7	**160,110**	**78.7**
Rain	86	7.9	10,249	12.7	14,915	12.2	**25,250**	**12.4**
Snow or Sleet	53	4.9	4,847	6.0	10,927	9.0	**15,827**	**7.8**
Fog, Mist, Smoke or Dust	20	1.9	939	1.2	1,285	1.1	**2,244**	**1.1**
Total	**1,085**	**100.0**	**80,432**	**100.0**	**121,914**	**100.0**	**203,431**	**100.0**

3c. the accident location

Table 3.11 Road Jurisdiction by Class of Accident 1987

Road Jurisdiction	Class of Accident			Total
	Fatal	Personal Injury	Property Damage	
Municipal (Excl. Twp. Rd.)	313	52,994	82,692	**135,949**
Provincial Highway	472	16,641	23,712	**40,825**
Township	108	4,211	6,141	**10,460**
County or District	114	2,996	3,914	**7,024**
Regional Municipality	62	3,223	4,578	**7,863**
Other	16	417	877	**1,310**
Total	**1,085**	**80,432**	**121,914**	**203,431**

Table 3.12 Road Jurisdiction for All Accidents 1978-1987

Road Jurisdiction	Year										Total
	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	
Municipal	128,719	136,091	135,579	135,346	126,876	119,230	136,456	128,809	120,799	135,949	**1,303,854**
Provincial	34,301	36,212	34,780	35,584	33,246	32,667	36,110	38,976	38,002	40,825	**360,703**
Township	10,834	11,905	12,909	11,573	11,476	11,330	11,628	10,562	10,092	10,460	**112,769**
County or District	7,200	7,593	6,605	6,475	5,669	5,258	6,248	7,002	7,027	7,024	**66,101**
Regional Municipality	4,620	4,742	5,562	8,220	9,722	12,592	3,393	3,166	10,185	7,863	**70,065**
Other	689	653	1,066	1,174	954	922	947	1,235	1,181	1,310	**10,131**
Total	**186,363**	**197,196**	**196,501**	**198,372**	**187,943**	**181,999**	**194,782**	**189,750**	**187,286**	**203,431**	**1,923,623**

Figure 3.4 Road Location for All Accidents 1987

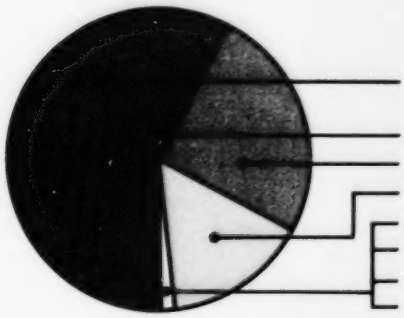


Table 3.13 Road Location by Class of Accident 1987

Road Location	Class of Accident						Total	%
			Personal		Property			
	Fatal	%	Injury	%	Damage	%		
Non-intersection	690	63.6	30,273	37.6	48,628	39.9	**79,591**	**39.1**
Intersection Related	53	4.9	15,931	19.8	22,345	18.3	**38,329**	**18.8**
In Intersection	212	19.5	22,409	27.9	28,420	23.3	**51,041**	**25.1**
At/Near Private Drive	98	9.0	10,595	13.2	20,736	17.0	**31,429**	**15.4**
At Railway	13	1.2	216	0.3	274	0.2	**503**	**0.2**
Underpass or Tunnel	1	0.1	153	0.2	255	0.2	**409**	**0.2**
Overpass or Bridge	18	1.7	847	1.0	1,247	1.0	**2,112**	**1.0**
Other	—	—	8	—	9	—	**17**	**—**
Total	**1,085**	**100.0**	**80,432**	**100.0**	**121,914**	**100.0**	**203,431**	**100.0**

While 39.1% of all accidents occurred at non-intersections, 63.6% of fatal accidents occurred at non-intersection locations.

Figure 3.5 Road Surface Conditions for All Accidents 1987

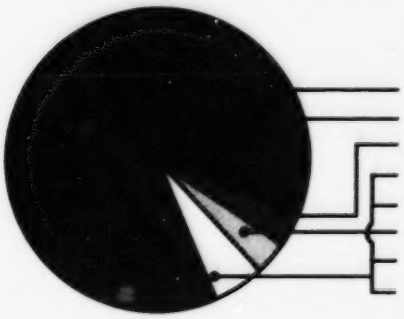


Table 3.14 Road Surface Condition by Class of Accident 1987

Road Surface Condition	Class of Accident						Total	%
			Personal		Property			
	Fatal	%	Injury	%	Damage	%		
Dry	818	75.4	53,685	66.7	75,180	61.7	**129,683**	**63.8**
Wet	181	16.7	18,987	23.6	28,706	23.5	**47,874**	**23.5**
Loose Snow	21	1.9	2,083	2.6	5,371	4.4	**7,475**	**3.7**
Slush	22	2.0	1,431	1.8	3,419	2.8	**4,872**	**2.4**
Packed Snow	12	1.1	1,314	1.6	3,434	2.8	**4,760**	**2.3**
Ice	22	2.0	2,243	2.8	4,869	4.0	**7,134**	**3.5**
Mud	—	—	38	—	112	0.1	**150**	**0.1**
Loose Sand or Gravel	9	0.8	651	0.8	823	0.7	**1,483**	**0.7**
Total	**1,085**	**100.0**	**80,432**	**100.0**	**121,914**	**100.0**	**203,431**	**100.0**

4 place of accident in ontario

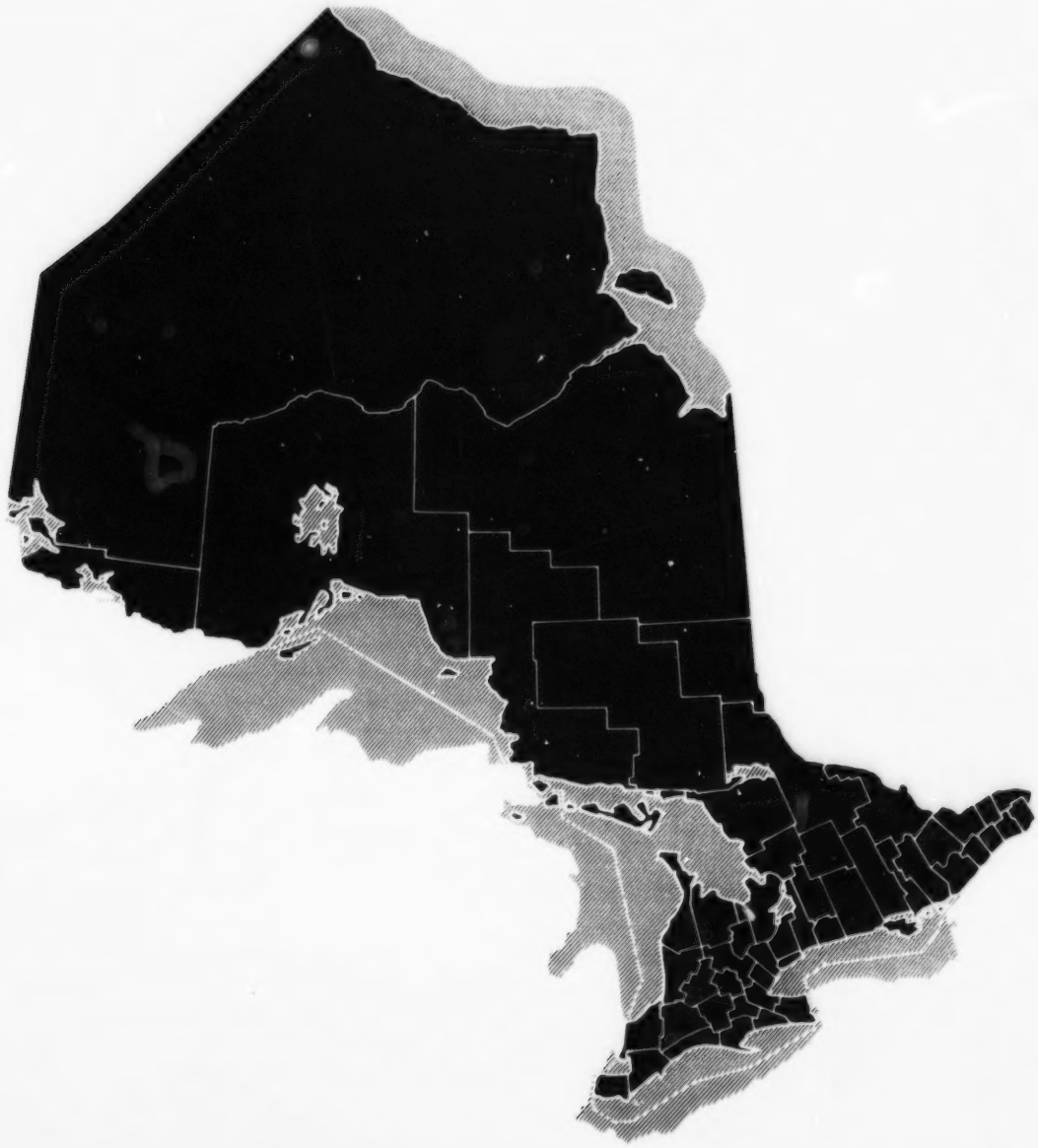


Table 4.1 **Place of Accident — Estimated Population, Class of Accident, Persons Killed, Persons Injured and Vehicle Registrations 1987**

Location		Estimated Population (1985)	Class of Accident Total Accidents	Fatal	Personal Injury	Property Damage	Persons Killed	Persons Injured	Vehicle Registration
Ontario		**8,883,298**	**203,431**	**1,085**	**80,432**	**121,914**	**1,229**	**121,089**	**5,634,965**
Algoma		**123,853**	**2,560**	**21**	**972**	**1,567**	**26**	**1,465**	**79,909**
Blind River, t		3,539	34	1	20	13	1	24	
Elliot Lake, t	M	18,332	124	—	44	80	—	54	
Sault Ste. Marie, c	M	81,718	1,512	3	567	942	5	834	
Thessalon, t		1,532	17	—	3	14	—	15	
Other Areas		18,732	873	17	338	518	20	538	
Brant		**101,212**	**2,100**	**21**	**819**	**1,260**	**27**	**1,217**	**63,933**
Brantford, c	M	75,080	1,285	5	483	797	5	676	
Burford, twp		5,297	1	—	—	1	—	—	
Paris, t	M	7,723	83	—	25	58	—	33	
Other Areas		13,112	731	16	311	404	22	508	
Bruce		**58,092**	**890**	**11**	**340**	**539**	**14**	**523**	**41,820**
Amabel, twp		2,952	1	—	—	1	—	—	
Carrick, twp		2,345	1	—	—	1	—	—	
Chesley, t	M	1,845	6	—	3	3	—	3	
Kincardine, t	M	5,833	37	1	9	27	1	14	
Port Elgin, t	M	6,005	79	—	28	51	—	48	
Southhampton, t	M	2,714	34	—	11	23	—	16	
Walkerton, t	M	4,667	54	1	14	39	1	21	
Wiarton, t	M	2,119	19	—	7	12	—	8	
Other Areas		24,599	659	9	268	382	12	413	
Cochrane		**86,609**	**1,714**	**12**	**650**	**1,052**	**14**	**939**	**55,728**
Cochrane, t		4,497	50	—	17	33	—	21	
Hearst, t		5,360	48	—	14	34	—	19	
Iroquois Falls, t		6,230	51	—	19	32	—	21	
Kapuskasing, t	M	11,508	96	—	27	69	—	36	
Smooth Rock Falls, t		2,251	11	1	3	7	1	3	
Timmins, c	M	45,743	716	1	280	435	2	390	
Other Areas		11,020	742	10	290	442	11	449	
Dufferin		**32,370**	**918**	**9**	**367**	**542**	**12**	**651**	**23,563**
Orangeville, t	M	14,408	274	—	91	183	—	128	
Shelburne, t	M	3,004	39	—	16	23	—	22	
Other Areas		14,958	605	9	260	336	12	501	

Municipal/Regional Municipal Roads

Legend

t town
c city
vl village
twp township

Other Areas — Include Provincial Highways and jurisdictions with less than 1,500 population

M Municipal Police Force

Table 4.1 **Continued**

Location		Estimated Population (1985)	Class of Accident: Total Accidents	Fatal	Personal Injury	Property Damage	Persons: Killed	Injured	Vehicle Registration
Durham	**M**	**314,238**	**6,979**	**41**	**2,904**	**4,034**	**46**	**4,620**	**239,427**
Ajax, t		33,763	444	2	184	258	2	294	
Brock, twp		9,806	23	—	10	13	—	16	
Newcastle, t		32,712	452	5	215	232	5	320	
Oshawa, c		121,669	2,480	6	1,002	1,472	6	1,604	
Pickering, t		45,758	643	4	263	376	5	411	
Scugog, t		14,645	61	—	24	37	—	38	
Uxbridge, twp		11,644	71	—	26	45	—	40	
Whitby, t		44,241	799	5	343	451	5	518	
Other Areas		—	2,006	19	837	1,150	23	1,379	
Elgin		**69,284**	**1,184**	**9**	**487**	**688**	**10**	**751**	**48,745**
Aldborough, twp		2,586	1	—	1	—	—	1	
Aylmer, t	M	5,232	62	—	11	51	—	15	
Port Stanley, vl		1,914	21	—	11	10	—	14	
St. Thomas, c	M	28,218	452	—	181	271	—	250	
Southwold, twp		4,342	1	—	—	1	—	—	
Yarmouth, twp		2,565	2	—	2	—	—	2	
Other Areas		24,427	645	9	281	355	10	469	
Essex		**315,743**	**6,956**	**32**	**2,942**	**3,982**	**37**	**4,384**	**189,521**
Amherstburg, t	M	8,474	96	—	38	58	—	48	
Anderdon, twp	M	4,751	2	—	2	—	—	2	
Belle River, t		3,676	35	—	14	21	—	21	
Colchester North, twp		4,895	1	—	1	—	—	1	
Essex, t	M	5,978	59	—	20	39	—	26	
Harrow, t		2,302	29	—	12	17	—	19	
Kingsville, t	M	5,257	34	—	10	24	—	11	
Leamington, t	M	12,655	312	2	92	218	2	146	
Maidstone, twp		8,270	2	—	—	2	—	—	
Mersea, twp	M	8,627	4	—	2	2	—	2	
Sandwich South, twp		4,862	1	—	—	1	—	—	
Sandwich West, twp	M	13,744	7	—	3	4	—	3	
St. Clair Beach, vl	M	3,026	14	—	8	6	—	10	
Tecumseh, t		7,208	107	—	28	79	—	37	
Tilbury North, twp		3,099	1	—	—	1	—	—	
Windsor, c	M	195,028	4,551	8	1,889	2,654	8	2,732	
Other Areas		23,891	1,701	22	823	856	27	1,326	
Frontenac		**117,878**	**2,566**	**16**	**947**	**1,603**	**20**	**1,342**	**73,487**
Kingston, c	M	60,408	1,282	3	466	813	3	613	
Kingston, twp		29,561	4	—	1	3	—	1	
Pittsburgh, twp		9,567	1	—	—	1	—	—	
Storrington, twp		3,225	1	—	1	—	—	1	
Other Areas		15,117	1,278	13	479	786	17	727	
Grey		**74,279**	**1,481**	**10**	**554**	**917**	**11**	**873**	**47,485**
Bentinck, twp		3,194	1	—	1	—	—	1	
Collingwood twp		2,689	1	—	—	1	—	—	
Durham, t	M	2,458	35	—	7	28	—	11	
Hanover, t	M	6,284	109	—	36	73	—	55	
Holland twp		2,300	2	—	1	1	—	1	
Meaford, t	M	4,358	60	—	26	34	—	35	

Table 4.1 **Continued**

Location		Estimated Population (1985)	Class of Accident: Total Accidents	Fatal	Personal Injury	Property Damage	Persons: Killed	Persons: Injured	Vehicle Registration
Owen Sound, c	M	19,698	302	—	114	188	—	159	
Sullivan, twp		2,262	3	—	—	3	—	—	
Sydenham, twp		2,570	1	—	1	—	—	3	
Other Areas		28,466	967	10	368	589	11	608	
Haldimand-Norfolk	**M**	**88,400**	**1,625**	**21**	**653**	**951**	**24**	**1,053**	**67,044**
Delhi, twp		14,796	97	—	41	56	—	68	
Dunnville, t		11,289	141	—	59	82	—	88	
Haldimand, t		17,296	90	4	36	50	6	56	
Nanticoke, c		20,071	268	6	107	155	6	194	
Norfolk, twp		10,752	40	—	18	22	—	25	
Simcoe, t		14,196	277	1	93	183	1	124	
Other Areas		—	712	10	299	403	11	498	
Haliburton		**11,541**	**396**	**6**	**119**	**271**	**6**	**193**	**9,090**
Anson, Hindon & Minden, twp		2,633	3	—	1	2	—	1	
Dysart, et al, twp		3,742	7	—	2	5	—	3	
Other Areas		5,166	386	6	116	264	6	189	
Halton	**M**	**264,498**	**5,494**	**28**	**2,018**	**3,448**	**33**	**3,133**	**188,661**
Burlington, c		115,593	1,478	4	532	942	4	775	
Halton Hills, t		34,7[illegible]3	550	1	190	359	2	288	
Milton, t		30,988	576	4	224	348	5	350	
Oakville, t		83,214	1,281	3	420	858	3	615	
Other Areas		—	1,609	16	652	941	19	1,105	
Hamilton-Wentworth	**M**	**421,264**	**9,470**	**46**	**4,161**	**5,263**	**49**	**6,243**	**240,305**
Ancaster, t		16,542	213	5	97	111	5	133	
Dundas, t		20,081	251	—	109	142	—	148	
Flamborough, twp		25,541	253	5	108	140	5	171	
Glanbrook, twp		9,446	33	—	17	16	—	35	
Hamilton, c		307,690	6,524	17	2,906	3,601	18	4,212	
Stoney Creek, t	M	41,964	558	3	259	296	3	396	
Other Areas		—	1,638	16	665	957	18	1,148	
Hastings		**107,863**	**2,254**	**25**	**865**	**1,364**	**28**	**1,308**	**76,554**
Bancroft, vl		2,366	38	—	6	32	—	8	
Belleville, c		36,720	704	1	224	479	1	319	
Deseronto, t	M	1,849	13	—	3	10	—	4	
Frankford, vl		1,922	15	—	4	11	—	4	
Huntingdon, twp		1,915	1	—	1	—	—	1	
Madoc, twp		1,616	1	—	—	1	—	—	
Sidney, twp		15,951	3	—	1	2	—	1	
Stirling, vl	M	1,795	17	—	3	14	—	4	
Trenton, c		15,068	272	1	104	167	1	144	
Tweed, vl		1,634	22	—	7	15	—	8	
Tyendinaga, twp		2,661	1	—	1	—	—	1	
Other Areas		24,366	1,170	23	513	634	26	816	
Huron		**55,553**	**857**	**10**	**324**	**523**	**11**	**563**	**35,873**
Clinton, t	M	3,119	42	—	10	32	—	13	
Exeter, t	M	3,706	67	—	20	47	—	32	
Goderich, t	M	7,282	123	—	46	77	—	59	
Goderich, twp		2,212	5	—	2	3	—	3	
Hay, twp		1,905	1	—	—	1	—	—	

Table 4.1 Continued

Location		Estimated Population (1985)	Class of Accident: Total Accidents	Fatal	Personal Injury	Property Damage	Persons: Killed	Injured	Vehicle Registration
Seaforth, t	M	2,153	27	—	9	18	—	10	
Tuckersmith, twp		2,974	1	—	—	1	—	—	
Turnberry, twp		1,524	1	—	—	1	—	—	
Wingham, t	M	2,914	24	—	10	14	—	17	
Other Areas		27,737	563	10	225	328	11	426	
Kenora		**36,322**	**1,207**	**15**	**434**	**758**	**19**	**653**	**32,462**
Dryden, t	M	6,431	101	1	25	75	1	37	
Ignace, twp		2,345	4	—	1	3	—	2	
Keewatin, t		1,919	26	1	13	12	1	16	
Kenora,t	M	9,574	172	—	59	113	—	80	
Red Lake, twp		2,078	2	—	—	2	—	—	
Sioux Lookout, t		2,996	40	—	13	27	—	16	
Other Areas		10,979	862	13	323	526	17	502	
Kent		**105,476**	**2,017**	**16**	**844**	**1,157**	**17**	**1,235**	**74,265**
Blenheim, t		4,175	46	—	20	26	—	26	
Chatham, c	M	41,586	768	3	293	472	3	379	
Dresden, t	M	2,568	37	—	8	29	—	12	
Harwich, twp		6,134	1	—	1	—	—	2	
Raleigh, twp		5,702	1	—	1	—	—	1	
Ridgetown, t		3,152	24	—	9	15	—	11	
Tilbury, t	M	4,154	78	—	20	58	—	30	
Wallaceburg	M	11,373	195	—	69	126	—	93	
Wheatley, vl		1,528	20	—	7	13	—	9	
Other Areas		25,104	847	13	416	418	14	672	
Lambton		**122,091**	**2,143**	**16**	**806**	**1,321**	**18**	**1,275**	**80,489**
Bosanquet, twp		4,366	2	—	—	2	—	—	
Enniskillen, twp		3,210	1	—	—	1	—	—	
Forest, t		2,614	25	—	12	13	—	18	
Petrolia, t	M	4,284	42	—	6	36	—	8	
Point Edward, vl	M	2,313	51	—	21	30	—	35	
Sarnia, c	M	49,091	986	—	342	644	—	490	
Sarnia, twp	M	23,293	2	—	1	1	—	1	
Wyoming, vl	M	1,791	8	—	2	6	—	2	
Other Areas		31,129	1,026	16	422	588	18	721	
Lanark		**48,400**	**1,024**	**8**	**355**	**661**	**11**	**559**	**33,387**
Almonte, twp		4,028	39	—	13	26	—	16	
Carleton Place, t	M	6,360	76	—	20	56	—	32	
Perth, t	M	5,699	122	—	44	78	—	69	
Ramsay, twp		2,862	1	—	—	1	—	—	
Smiths Falls, t	M	9,118	155	—	40	115	—	53	
Other Areas		20,330	631	8	238	385	11	388	
Leeds & Grenville		**63,176**	**1,733**	**21**	**610**	**1,102**	**25**	**1,011**	**54,919**
Augusta, twp		6,721	1	—	—	1	—	—	
Brockville, c	M	20,760	390	—	114	276	—	188	
Cardinal, vl	M	1,651	3	—	1	2	—	1	
Gananoque, t	M	4,844	50	—	11	39	—	16	
Kemptville, t	M	2,496	23	1	6	16	1	7	
Prescott, t	M	4,584	56	—	18	38	—	31	
R. Leeds & Lansdowne, twp		2,468	1	—	—	1	—	—	
Other Areas		39,652	1,209	20	460	729	24	768	

Table 4.1 Continued

Location		Estimated Population (1985)	Class of Accident: Total Accidents	Fatal	Personal Injury	Property Damage	Persons: Killed	Injured	Vehicle Registration
Lennox & Addington		**33,094**	**639**	**13**	**224**	**402**	**15**	**394**	**19,571**
Napanee, t	M	4,452	94	1	18	75	1	33	
Other Areas		28,642	545	12	206	327	14	361	
Manitoulin		**6,779**	**251**	**4**	**82**	**165**	**4**	**138**	**6,645**
Middlesex		**338,278**	**7,222**	**35**	**3,137**	**4,050**	**41**	**4,567**	**205,479**
Biddulph, twp		2,251	1	—	—	1	—	—	
Caradoc, twp		5,470	1	—	—	1	—	—	
Glencoe, vl		1,713	24	—	8	16	—	9	
London, c	M	276,000	5,553	11	2,421	3,121	11	3,403	
London, twp		5,816	1	—	1	—	—	1	
Lucan, vl		1,671	14	—	5	9	—	7	
Strathroy, t	M	9,051	104	—	40	64	—	58	
Westminster, twp		6,159	1	—	—	1	—	—	
Other Areas		30,147	1,523	24	662	837	30	1,089	
Muskoka		**37,941**	**1,304**	**17**	**481**	**806**	**18**	**756**	**29,716**
Bracebridge, t		9,322	114	1	32	81	1	50	
Gravenhurst, t		8,421	84	—	33	51	—	42	
Huntsville, t		11,438	115	—	44	71	—	53	
Lake of Bays, twp		2,141	2	—	2	—	—	3	
Muskoka Lakes, twp		4,762	1	—	—	1	—	—	
Other Areas		1,857	988	16	370	602	17	608	
Niagara	**M**	**369,312**	**8,797**	**51**	**3,308**	**5,438**	**54**	**4,915**	**235,408**
Fort Erie, t		24,073	486	2	177	307	2	287	
Grimsby, t		16,719	229	1	97	131	1	136	
Lincoln, t		14,404	234	3	79	152	3	119	
Niagara Falls, c		71,088	1,729	6	674	1,049	6	1,016	
Niagara-on-the-Lake, t		12,359	205	1	88	116	1	135	
Pelham, t		11,835	166	1	55	110	1	75	
Port Colborne, c		18,653	297	2	91	204	2	140	
St. Catharines, c		123,014	2,471	7	923	1,541	7	1,295	
Thorold, c		16,086	196	—	65	131	—	94	
Wainfleet, twp		5,983	18	—	6	12	—	10	
Welland, c		45,173	990	3	376	611	3	529	
West Lincoln, twp		9,925	44	—	21	23	—	30	
Other Areas		—	1,732	25	656	1,051	28	1,049	
Nipissing		**73,733**	**1,584**	**14**	**646**	**924**	**16**	**1,010**	**47,037**
Bonfield, twp		1,738	2	—	2	—	—	2	
Mattawa, t		2,571	13	—	4	9	—	4	
North Bay, c	M	50,437	718	1	297	420	1	430	
Sturgeon Falls, t	M	5,836	94	—	30	64	—	45	
Other Areas		13,151	757	13	313	431	15	529	
Northumberland		**66,568**	**1,496**	**25**	**627**	**844**	**28**	**981**	**34,629**
Brighton, t		3,456	27	—	10	17	—	11	
Campbellford, t		3,402	35	—	9	26	—	13	
Coburg, t	M	13,064	234	1	86	147	1	128	
Colborne, vl		1,879	16	—	7	9	—	11	
Cramahe, twp		2,486	1	—	—	1	—	—	
Port Hope, t	M	10,462	79	—	30	49	—	35	
Seymour, twp		2,323	1	—	—	1	—	—	
Other Areas		26,012	1,103	24	483	594	27	783	

Table 4.1 **Continued**

Location		Estimated Population (1985)	Class of Accident Total Accidents	Fatal	Personal Injury	Property Damage	Persons Killed	Persons Injured	Vehicle Registration
Ottawa-Carleton		**599,688**	**13,805**	**50**	**4,510**	**9,245**	**51**	**6,313**	**335,456**
Cumberland, twp		24,707	167	—	60	107	—	91	
Gloucester, c	M	86,553	878	4	319	555	4	469	
Goulbourn, twp		11,824	112	—	36	76	—	62	
Kanata, c		26,133	281	4	87	190	4	145	
Nepean, c	M	92,751	1,274	3	426	845	3	603	
Osgoode, twp		10,850	169	1	81	87	1	113	
Ottawa, c	M	304,448	7,878	10	2,546	5,322	10	3,402	
Rideau, twp		10,017	89	—	31	58	—	55	
Rockcliffe Park, vl		2,323	19	—	—	19	—	—	
Vanier, c		18,803	376	—	119	257	—	155	
West Carleton, twp		11,279	66	—	22	44	—	38	
Other Areas		—	2,496	28	783	1,685	29	1,180	
Oxford		**84,757**	**1,780**	**22**	**723**	**1,035**	**27**	**1,114**	**58,032**
Blandford-Blenheim, twp		6,623	1	—	—	1	—	—	
East Zorra-Tavistock, twp	M	7,082	6	—	3	3	—	3	
Ingersoll, t	M	8,469	113	—	34	79	—	44	
Norwich, twp	M	9,507	14	—	5	9	—	6	
South-West Oxford, twp		8,270	1	—	—	1	—	—	
Tillsonburg, t	M	10,563	159	1	65	93	1	87	
Woodstock, c	M	26,183	569	1	214	354	1	301	
Zorra, twp		8,060	1	—	—	1	—	—	
Other Areas		—	916	20	402	494	25	673	
Parry Sound		**29,498**	**960**	**16**	**406**	**538**	**20**	**728**	**25,284**
Himsworth North, twp		2,662	4	—	2	2	—	2	
McDougall, twp		1,703	1	—	1	—	—	1	
Parry Sound, t	M	5,813	73	—	31	42	—	39	
Other Areas		19,320	882	16	372	494	20	686	
Peel		**565,871**	**13,186**	**67**	**5,181**	**7,938**	**73**	**8,082**	**396,567**
Brampton, c		177,675	3,065	14	1,244	1,807	17	1,981	
Caledon, t		28,701	742	4	304	434	4	478	
Mississauga, c		359,495	6,568	30	2,464	4,074	33	3,644	
Other Areas		—	2,811	19	1,169	1,623	19	1,979	
Perth		**66,333**	**1,147**	**6**	**425**	**716**	**9**	**661**	**42,841**
Listowel, t	M	5,072	92	—	21	71	—	28	
Mitchell, t	M	2,947	26	—	4	22	—	5	
St. Marys, t	M	5,009	47	—	10	37	—	11	
Stratford, c	M	26,361	463	1	162	300	1	225	
Other Areas		26,944	519	5	228	286	8	392	
Peterborough		**102,740**	**2,241**	**9**	**866**	**1,366**	**11**	**1,323**	**64,767**
Lakefield, vl	M	2,318	30	—	14	16	—	20	
Peterborough, c	M	61,330	1,163	1	459	703	1	664	
Other Areas		39,092	1,048	8	393	647	10	639	
Prescott & Russell		**56,533**	**1,052**	**13**	**396**	**643**	**17**	**598**	**52,414**
Alfred, twp		1,923	1	—	—	1	—	—	
Casselman, vl		1,844	20	—	4	16	—	6	
Clarence, twp		7,360	2	—	—	2	—	—	
East Hawkesbury, twp		2,854	1	—	—	1	—	—	

Table 4.1 **Continued**

Location		Estimated Population (1985)	Class of Accident Total Accidents	Fatal	Personal Injury	Property Damage	Persons Killed	Injured	Vehicle Registration
Hawkesbury, t	M	9,716	173	—	53	120	—	62	
L'Orignal, vl		1,904	9	—	3	6	—	4	
North Plantagenet, twp		2,877	1	—	—	1	—	—	
Rockland, t		4,689	43	—	15	28	—	22	
Russell, twp		7,164	3	—	1	2	—	4	
Vankleek Hill, t		1,773	23	—	6	17	—	6	
West Hawkesbury, twp		2,657	1	—	—	1	—	—	
Other Areas		11,772	775	13	314	448	17	494	
Prince Edward		**22,228**	**353**	**4**	**128**	**221**	**4**	**183**	**15,318**
Hallowell, twp		4,467	5	—	2	3	—	8	
Picton, t	M	4,177	65	—	18	47	—	27	
Other Areas		13,584	283	4	108	171	4	148	
Rainy River	**M**	**19,645**	**455**	**5**	**148**	**302**	**6**	**246**	**15,306**
Fort Francis, t	M	8,673	134	—	42	92	—	65	
Other Areas		10,972	321	5	106	210	6	181	
Renfrew		**86,991**	**1,511**	**15**	**554**	**942**	**20**	**836**	**58,403**
Arnprior, t		5,891	77	—	22	55	—	28	
Deep River, t	M	4,614	22	—	11	11	—	11	
Pembroke, c	M	13,966	223	2	84	137	2	138	
Petawawa, twp		7,790	4	—	3	1	—	3	
Petawawa, vl		5,288	15	—	3	12	—	3	
Renfrew, t		8,166	137	—	52	85	—	71	
Wilberforce, twp		1,545	2	—	2	—	—	2	
Other Areas		39,731	1,031	13	377	641	18	579	
Simcoe		**231,711**	**5,839**	**38**	**2,217**	**3,584**	**43**	**3,497**	**153,880**
Adjalda, twp		3,962	1	—	—	1	—	—	
Alliston, t	M	4,674	92	—	25	67	—	28	
Barrie, c	M	47,409	1,033	—	343	690	—	505	
Beeton, vl		2,105	11	—	3	8	—	4	
Bradford, t	M	8,056	113	—	34	79	—	47	
Collingwood, t	M	12,035	273	—	83	190	—	111	
Essa, twp		13,860	1	—	—	1	—	—	
Flos, twp		2,506	3	—	1	2	—	1	
Innisfil, twp		13,128	1	—	1	—	—	1	
Mara, twp		3,874	1	—	—	1	—	—	
Medonte, twp		4,323	4	—	2	2	—	6	
Midland, t	M	12,049	187	—	82	105	—	124	
Orillia, c	M	23,786	372	—	147	225	—	220	
Orillia, twp		7,022	1	—	—	1	—	—	
Penetanguishene, t	M	5,449	75	—	27	48	—	35	
Port McNicoll, vl		1,926	15	—	3	12	—	3	
Stayner, t		2,730	32	—	9	23	—	10	
Sunnidale, twp		2,309	1	—	1	—	—	1	
Tay, twp		5,995	2	—	1	1	—	1	
Tecumseth, twp		6,728	2	—	1	1	—	1	
Tiny, twp		7,245	3	—	3	—	—	5	
Tosorontio, twp		3,327	1	—	1	—	—	1	
Tottenham, vl		2,987	22	—	8	14	—	9	
Vespra, twp		5,762	6	—	2	4	—	3	

Table 4.1 **Continued**

Location		Estimated Population (1985)	Class of Accident Total Accidents	Fatal	Personal Injury	Property Damage	Persons Killed	Injured	Vehicle Registration
Wasaga Beach, t		4,588	114	1	48	65	1	71	
West Gwillimbury, twp		4,205	2	—	2	—	—	5	
Other Areas		19,671	3,471	37	1,390	2,044	42	2,305	
Stormont, Dundas and Glengarry		**101,510**	**2,118**	**13**	**847**	**1,258**	**17**	**1,240**	**65,858**
Alexandria, t	M	3,314	104	—	37	67	—	51	
Cornwall, c	M	45,980	929	1	368	560	1	496	
Morrisburg, vl		2,306	21	—	5	16	—	8	
Mountain, twp		3,004	1	—	—	1	—	—	
Winchester, vl		2,055	10	—	3	7	—	3	
Winchester, twp		3,089	5	—	—	5	—	—	
Other Areas		41,762	1,048	12	434	602	16	682	
Sudbury District and Sudbury Regional Munic.	**M**	**172,595**	**3,019**	**11**	**1,228**	**1,780**	**11**	**1,804**	**106,114**
Espanola, t	M	5,535	39	—	19	20	—	25	
Capreol, t		3,722	26	—	9	17	—	10	
Nickel Centre, t		11,548	84	2	43	39	2	58	
Onaping Falls, t		5,614	31	1	7	23	1	16	
Rayside-Balfour, t		14,183	98	1	41	56	1	52	
Sudbury, c		90,453	1,408	3	589	816	3	872	
Valley East, t		19,326	184	2	96	86	2	141	
Walden, t		9,541	78	1	36	41	1	44	
Other Areas		12,673	1,071	1	388	682	1	586	
Thunder Bay		**143,908**	**4,148**	**20**	**1,435**	**2,693**	**23**	**2,109**	**103,566**
Geraldton, t		2,821	26	—	6	20	—	6	
Longlac, t		2,258	11	—	3	8	—	3	
Manitouwadge, twp		3,472	29	—	6	23	—	7	
Marathon, twp	M	3,054	8	—	1	7	—	2	
Nipigon, twp		2,392	11	—	5	6	—	5	
Oliver, twp		2,334	1	—	—	1	—	—	
Red Rock, twp	M	1,513	1	—	1	—	—	1	
Schreiber, twp		1,891	7	—	1	6	—	1	
Terrace Bay, twp	M	2,632	17	—	2	15	—	2	
Thunder Bay, c	M	112,518	2,783	4	919	1,860	4	1,289	
Other Areas		9,023	1,254	16	491	747	19	793	
Timiskaming		**37,312**	**807**	**7**	**269**	**531**	**8**	**460**	**24,585**
Cobalt, t		1,622	14	—	2	12	—	2	
Englehart, t		1,737	15	—	6	9	—	9	
Haileybury, t		4,965	39	—	13	26	—	16	
Kirkland Lake, t	M	11,854	141	—	46	95	—	58	
New Liskeard, t	M	5,234	75	1	11	63	1	14	
Other Areas		11,900	523	6	191	326	7	361	
Toronto, Metropolitan	**M**	**2,154,537**	**52,870**	**102**	**21,826**	**30,942**	**104**	**31,904**	
Etobicoke, c		298,490	4,815	12	2,048	2,755	12	3,046	**Included in Regional Municipality of York**
Scarborough, c		461,957	8,192	18	3,586	4,588	18	5,384	
Toronto, c		606,247	18,901	34	7,173	11,694	34	9,777	
York, c		133,856	1,920	3	823	1,094	3	1,214	
York E., borough		97,676	1,206	2	482	722	2	697	

Table 4.1 **Continued**

Location		Estimated Population (1985)	Class of Accident Total Accidents	Fatal	Personal Injury	Property Damage	Persons Killed	Injured	Vehicle Registration
York N., c		566,308	10,763	13	4,758	5,992	13	7,039	
Other Areas		—	7,073	20	2,956	4,097	22	4,747	
Victoria		**51,528**	**1,196**	**10**	**466**	**720**	**11**	**759**	**35,450**
Bobcaygeon, vl		1,758	20	—	7	13	—	8	
Emily, twp		4,796	1	—	1	—	—	1	
Fenelon Falls, vl		1,739	22	—	3	19	—	3	
Lindsay, t	M	14,626	304	1	108	195	1	153	
Other Areas		28,609	849	9	347	493	10	594	
Waterloo	**M**	**328,224**	**7,433**	**32**	**2,936**	**4,465**	**35**	**4,273**	**205,986**
Cambridge, c		77,843	1,593	6	666	921	7	978	
Kitchener, c		147,439	2,932	12	1,154	1,766	13	1,654	
North Dumfries, twp		5,082	42	—	17	25	—	31	
Waterloo, c		63,265	1,161	4	462	695	4	661	
Wellesley, twp		6,916	27	—	10	17	—	16	
Wilmot, twp		11,018	69	—	29	40	—	45	
Woolwich, twp		16,661	97	—	38	59	—	52	
Other Areas		—	1,512	10	560	942	11	836	
Wellington		**139,758**	**3,088**	**25**	**1,339**	**1,724**	**31**	**2,095**	**91,604**
Arthur, twp		2,068	2	—	1	1	—	1	
Arthur, vl		1,765	29	—	11	18	—	19	
Elora, vl		2,690	24	—	9	15	—	13	
Erin, vl		2,270	15	—	4	11	—	5	
Erin, twp		6,221	2	—	—	2	—	—	
Fergus, t	M	6,234	87	—	27	60	—	35	
Guelph, c	M	79,857	1,280	4	601	675	4	857	
Guelph, twp		2,939	2	—	1	1	—	1	
Harriston, t	M	1,948	14	—	8	6	—	12	
Mount Forest, t	M	3,599	37	—	11	26	—	15	
Nicol, twp		3,507	5	—	1	4	—	1	
Palmerston, t	M	2,067	9	—	4	5	—	7	
Peel, twp		3,907	3	—	3	—	—	5	
Other Areas		15,631	1,579	21	658	900	27	1,124	
York	**M**	**324,064**	**8,827**	**52**	**3,536**	**5,239**	**56**	**5,596**	**1,420,623**
Aurora, t		19,438	416	1	137	278	1	206	
East Gwillimbury, t		13,991	113	1	49	63	1	86	
Georgina, t		20,898	122	—	58	64	—	91	
King, twp		15,733	267	2	106	159	4	189	
Markham, t		105,341	1,499	6	542	951	7	808	
Newmarket, t		33,186	455	—	150	305	—	225	
Richmond Hill, t		44,358	729	2	275	452	2	379	
Vaughan, t		56,766	1,256	4	502	750	4	799	
Whitchurch-Stouffville, t		14,353	163	4	62	97	4	109	
Other Areas		—	3,807	32	1,655	2,120	33	2,704	
Vehicle Registration Location Not Recorded									**27,709**

5 the vehicle

73.7% of all vehciles involved in accidents were passenger vehicles and 16.5% were small trucks. 7.4% of vehicles involved in accidents had a defect or the condition of the vehicle was unknown. The most frequently reported defects were defective service brakes, tire puncture or blow out, and insufficient tire tread. 19.8% of vehicles involved in accidents were manufactured in 1978 or earlier.

5a. vehicles in accidents

Table 5.1 Type of Vehicle by Class of Accident 1987

Class of Driver Licence Required		Type of Vehicle	Class of Accident			Total
			Fatal	Personal Injury	Property Damage	
Passenger vehicles	G	Passenger car/station wagon	1,084	111,802	167,292	**280,178**
	G	Taxi/limousine	—	178	230	**408**
	G	Hearse	—	—	2	**2**
	G	Dune buggy	—	2	—	**2**
	F	Ambulance	1	62	63	**126**
	G	Fire department vehicle	2	4	14	**20**
	G	Police force vehicle	3	158	126	**287**
	G	Public utility emergency vehicle	—	2	—	**2**
	G	Other passenger vehicle	6	221	305	**532**
		Subtotal	**1,096**	**112,429**	**168,032**	**281,557**
		Percentage of all vehicles	**61.1**	**73.8**	**73.8**	**73.7**
		Percentage of all vehicles over 5 years	**62.1**	**74.3**	**75.7**	**75.1**
Passenger vehicles and trailers	G	P.V. and house trailer	—	12	21	**33**
	G	P.V. and boat trailer	—	22	75	**97**
	G	P.V. and tent trailer	—	10	17	**27**
	G	P.V. and utility trailer	1	7	13	**21**
	G	P.V and other trailer	1	114	311	**426**
	G	Other P.V. and trailer	2	9	22	**33**
		Subtotal	**4**	**174**	**459**	**637**
		Percentage of all vehicles	**0.2**	**0.1**	**0.2**	**0.2**
		Percentage of all vehicles over 5 years	**0.3**	**0.1**	**0.2**	**0.2**
Trucks	D	Truck with concrete mixer	1	30	74	**105**
	D	Truck with stake or platform body	3	176	329	**508**
	D	Truck with tank body	—	54	103	**157**
	D	Truck with dump body	20	534	1,171	**1,725**
	G	Tow truck	4	109	200	**313**
	D	Tractor not pulling a trailer	5	92	164	**261**
	G	Pick-up truck	183	11,810	20,913	**32,906**
	G	Passenger van	34	2,683	4,258	**6,975**
	G	Delivery van	79	5,436	9,502	**15,017**
	G	Pick-up camper	—	9	12	**21**
	D	Fire truck	—	13	38	**51**
	D	Other truck	16	744	1,714	**2,474**
	G	Other truck	16	759	1,549	**2,324**
	D	Tow truck	1	5	22	**28**
		Subtotal	**362**	**22,454**	**40,049**	**62,865**
		Percentage of all vehicles	**20.2**	**14.7**	**17.6**	**16.5**
		Percentage of all vehicles over 5 years	**17.9**	**13.2**	**16.0**	**15.0**

Table 5.1 **Continued**

Class of Driver Licence Required		Type of Vehicle	Class of Accident			Total
			Fatal	Personal Injury	Property Damage	
Truck and trailer	G	Pick-up and recreation trailer	—	4	2	**6**
	G	Pick-up and recreation semi-trailer	—	1	2	**3**
	G	Pick-up and other semi-trailer	2	229	521	**752**
	D	Truck/trailer-dump	1	8	13	**22**
	D	Truck/trailer-frame	—	—	—	**—**
	D	Truck/trailer-tank	—	—	—	**—**
	D	Truck/trailer-stake or platform body	1	8	8	**17**
	D	Truck/trailer-van	—	—	1	**1**
	D	Truck and pole trailer	—	—	—	**—**
	G	Tow Truck hauling a disabled vehicle	1	18	56	**75**
	D	Other truck/trailer	—	19	37	**56**
	G	Other truck/trailer	—	9	19	**28**
	A	Other truck/trailer	—	112	210	**322**
	D	Tow Truck hauling a disabled vehicle	—	8	19	**27**
		Subtotal	**5**	**416**	**888**	**1,309**
		Percentage of all vehicles	**0.3**	**0.3**	**0.4**	**0.3**
		Percentage of all vehicles over 5 years	**0.4**	**0.2**	**0.3**	**0.3**
Tractor and semi-trailers	A	Tractor/semi-trailer-dump	7	88	154	**249**
	A	Tractor/semi-trailer-frame	—	15	21	**36**
	A	Tractor/semi-trailer-tank	2	45	77	**124**
	A	Tractor/semi-trailer-stake or platform	—	97	200	**297**
	A	Tractor/semi-trailer-van	10	159	271	**440**
	A	Tractor/semi-trailer-concrete mixer	—	3	2	**5**
	A	Tractor/semi-trailer-float	10	39	89	**138**
	A	Tractor/semi-trailer-car transport	—	7	13	**20**
	A	Tractor/semi-trailer-other	66	1,528	3,532	**5,126**
	A	Tractor/semi-trailer and pup-dump	1	10	13	**24**
	A	Tractor/semi-trailer and pup-frame	—	—	—	**—**
	A	Tractor/semi-trailer and pup-tank	—	10	18	**28**
	A	Tractor/semi-trailer and pup-stake or platform	2	5	18	**25**
	A	Tractor/semi-trailer and pup-van	2	11	7	**20**
	A	Tractor/semi-trailer and pup-other	8	47	83	**138**
	A	Tractor/semi-trailer and semi-trailer tank	—	—	3	**3**
	A	Tractor/semi-trailer/semi-trailer stake or platform	—	2	2	**4**
	A	Tractor/semi-trailer and semi-trailer-van	—	—	1	**1**
	A	Tractor/semi-trailer and semi-trailer-other	1	19	22	**42**
		Subtotal	**109**	**2,085**	**4,526**	**6,720**
		Percentage of all vehicles	**6.1**	**1.4**	**2.0**	**1.8**
		Percentage of all vehicles over 5 years	**6.5**	**1.6**	**1.9**	**1.8**
Bus	C	Transit — intercity	2	50	103	**155**
	C	Transit — urban	5	876	1,161	**2,042**
	F	Coach — intercity	—	3	13	**16**
	F	Coach — urban	—	69	116	**185**
		Subtotal	**7**	**998**	**1,393**	**2,398**
		Percentage of all vehicles	**0.4**	**0.7**	**0.6**	**0.6**
		Percentage of all vehicles over 5 years	**0.4**	**0.7**	**0.7**	**0.7**

Table 5.1 **Continued**

Class of Driver Licence Required		Type of Vehicle	Class of Accident			Total
			Fatal	Personal Injury	Property Damage	
School vehicles	E	School bus or school van — seating capacity 10-23	1	58	100	**159**
	B	School bus — seating capacity 24 or over	4	280	529	**813**
	G	School van — seating capacity under 10	—	3	8	**11**
	G	Station wagon	—	2	1	**3**
	C	Other bus	—	10	20	**30**
		Subtotal	**5**	**353**	**658**	**1,016**
		Percentage of all vehicles	**0.3**	**0.2**	**0.3**	**0.3**
		Percentage of all vehicles over 5 years	**0.3**	**0.2**	**0.3**	**0.3**
Other motor vehicles	G	Motor home	2	45	95	**142**
	M	Motorcycle	136	4,953	528	**5,617**
	G	Moped	—	31	—	**31**
		Subtotal	**138**	**5,029**	**623**	**5,790**
		Percentage of all vehicles	**7.7**	**3.3**	**0.3**	**1.5**
		Percentage of all vehicles over 5 years	**7.7**	**4.1**	**0.3**	**1.8**
Non-motor vehicles	G	Snowmobile	3	70	27	**100**
		Farm tractor	4	87	136	**227**
		Tractor or construction equipment	2	83	227	**312**
		Train	11	71	57	**139**
		Street car	—	93	267	**360**
		Bicycle	37	5,149	82	**5,268**
		Snow plow	—	2	3	**5**
		Go-cart	—	3	—	**3**
		Horse and buggy	—	3	6	**9**
		Other	—	13	21	**34**
		Subtotal	**57**	**5,574**	**826**	**6,457**
		Percentage of all vehicles	**3.2**	**3.7**	**0.4**	**1.7**
		Percentage of all vehicles over 5 years	**3.8**	**3.8**	**0.4**	**1.7**
		Unknown	**11**	**2,822**	**10,347**	**13,180**
		Percentage of all vehicles	**0.6**	**1.8**	**4.5**	**3.4**
		Percentage of all vehicles over 5 years	**0.7**	**1.9**	**4.2**	**3.3**
		Total	**1,794**	**152,334**	**227,801**	**381,929**

Table 5.2 **Condition of Vehicle by Class of Accident 1987**

Condition of Vehicle	Class of Accident			Total
	Fatal	Personal Injury	Property Damage	
No Apparent Defect	1,550	143,493	208,446	**353,489**
Service Brakes Defective	21	711	664	**1,396**
Steering Defective	3	143	143	**289**
Tire Puncture or Blow Out	4	390	575	**969**
Tire Tread Insufficient	32	323	266	**621**
Headlamps Defective	5	101	67	**173**
Other Lamps of Reflectors Defective	2	174	255	**431**
Engine Controls Defective	1	176	369	**546**
Wheels or Suspension Defective	1	102	220	**323**
Vision Obscured	3	54	100	**157**
Trailer Hitch Defective	—	16	73	**89**
Other Defects	24	742	1,332	**2,098**
Unknown	148	5,909	15,291	**21,348**
Total	**1,794**	**152,334**	**227,801**	**381,929**

Of the 7,092 vehicles with defects involved in accidents, the most common of these were service brakes defective (19.7%), tire puncture or blow out (13.7%) and insufficient tire tread (8.8%).

Table 5.3 **Model Year of Vehicle by Class of Accident 1987**

Model Year of Vehicle	Class of Accident			Total
	Fatal	Personal Injury	Property Damage	
1988	13	901	1,581	**2,495**
1987	173	12,649	19,240	**32,062**
1986	201	18,273	27,866	**46,340**
1985	174	16,218	24,613	**41,005**
1984	171	14,071	21,259	**35,501**
1983	106	9,798	14,111	**24,015**
1982	102	8,962	12,661	**21,725**
1981	145	11,283	16,583	**28,011**
1980	116	10,799	16,172	**27,087**
1979	111	10,473	15,834	**26,418**
1978 and Earlier	429	29,854	45,448	**75,731**
Unknown	53	9,053	12,433	**21,539**
Total	**1,794**	**152,334**	**227,801**	**381,929**

Table 5.4 **Insurance Status of Vehicle by Class of Accident 1987**

Insurance	Class of Accident			Total
	Fatal	Personal Injury	Property Damage	
Insured	1,645	139,671	210,781	**352,097**
Not Insured	95	4,932	2,268	**7,295**
Unknown	54	7,731	14,752	**22,537**
Total	**1,794**	**152,334**	**227,801**	**381,929**

5b. putting the vehicle in context

Table 5.5 **Vehicle Population by Type of Vehicle 1987**

Vehicle Class	
Passenger	4,402,704
Motorcycle	138,797
Moped	5,843
Commercial	960,230
Bus	18,115
School Bus	8,995
Motorized Snow Vehicle	263,681
Off-Road Vehicle	62,038
Road Building Machinery	1,029
Permanent Apparatus	3,976
Farm Trucks	33,238
Total	**5,898,646**

Table 5.6 **Selected Types of Vehicles by Model Year 1987**

Vehicle Class	Model Years											Total
	88	87	86	85	84	83	82	81	80	79	78+	
Passenger	109,543	426,209	499,070	447,929	405,898	284,963	256,184	334,644	328,217	323,639	986,408	**4,402,704**
Motorcycle	76	2,589	7,868	13,561	16,955	16,420	18,378	11,127	7,938	7,744	36,141	**138,797**
Moped	—	67	112	100	110	271	341	338	232	285	3,987	**5,843**
Commercial	27,398	101,906	106,414	89,706	73,742	45,620	42,289	68,580	63,637	79,070	300,111	**998,473**
Bus	299	3,118	2,467	2,692	2,267	1,878	1,801	2,144	1,687	1,581	7,176	**27,110**
Motorized Snow Vehicle	9,126	11,290	9,357	7,879	5,542	6,182	9,758	13,028	25,345	22,414	143,760	**263,681**
Off-Road Vehicle	280	4,657	10,902	11,141	12,819	9,375	4,327	2,026	1,152	1,005	4,354	**62,038**
Total	**146,722**	**549,836**	**636,190**	**573,008**	**517,333**	**364,709**	**333,078**	**431,887**	**428,208**	**435,738**	**1,481,937**	**5,898,646**

This table reports the registered vehicle population as of December 31, 1987, broken down by model year and vehicle class.

6 vehicles of special interest

Motorcycles, school vehicles, off-road vehicles, trucks and motorized snow vehicles have been grouped in previous years' reports as vehicles of special interest because of their special nature in terms of operating characteristics, accident trends, changes in vehicle population size or public concern.

Meeting the above criteria, the bicycle has been added as a vehicle of special interest in this year's report.

6a. motorcycles

Table 6.1 **Motorcyclists* Killed and Injured 1983-1987**

Year	Drivers		Passengers	
	Killed	Injured	Killed	Injured
1983	95	5,069	18	941
1984	116	5,272	19	1,017
1985	97	5,327	23	920
1986	99	5,012	15	870
1987	120	4,721	12	798

Over the past five years, total motorcycle fatalities and injuries peaked in 1984 and have since declined each year.
*Excludes moped drivers and passengers.

Figure 6.1 **Registered Motorcycles and Licensed Motorcyclists 1978-1987**

In 1987, the population of licensed motorcyclists grew to 430,556. The number of vehicle registrations for motorcycles was 138,797.

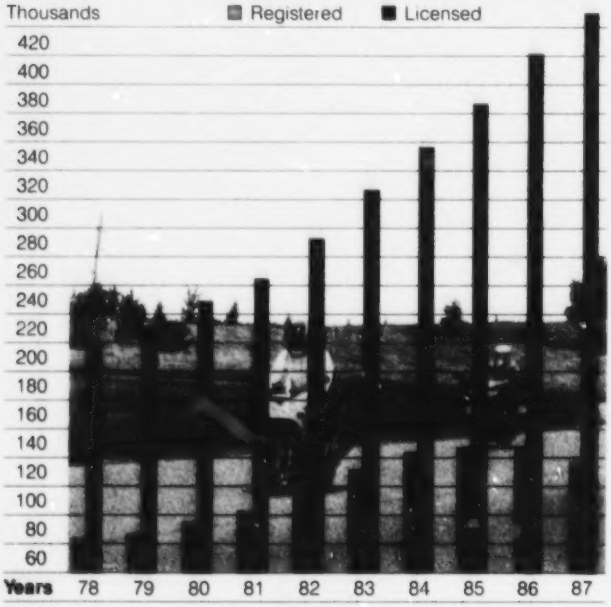


Table 6.2 **Selected Factors Relevant to Fatal Motorcycle Accidents 1987**

Factors	%
Unlicensed Motorcycle Drivers	30
Under 25 Years Old	69
Valid 'M' Licence Less Than One Year	30
Alcohol Used (Driver Fatalities)	40
Helmet Not Worn (Fatalities)	12
Motorcycle Driver Error	
Speed Too Fast/Lost Control	58
Other Error	23
Single Vehicle Accidents	40
Day/Night	57/43
Weekend	41

The most common driver error in fatal motorcycle accidents is speed too fast/lost control. Unlicensed motorcycle drivers included operators with valid licences but no "M" endorsement, operators with a licence under suspension, and operators with no driver's licence at all. About a third of motorcycle drivers fatally injured were not licensed to drive the motorcycle at the time of the accident. Motorcycle accidents most often occurred on weekends and in the day time.

6b. school vehicles

Table 6.3 Pupils Transported Daily, Total Accidents and Injury Rate per 100,000 Pupils — School Years 1982/83-1986/87

School Year	Pupils Transported Daily	Total Number of Accidents	Injury Rate Per 100,000 Pupils	
			Fatal	Non-Fatal
1982/83	604,370	808	0.7	27
1983/84	602,898	900	0.3	39
1984/85	622,219	866	—	34
1985/86	652,406	961	0.1	44
1986/87	685,825	922	0.1	26

Table 6.4 School Vehicle Type by Nature of Accident 1986/87

School Vehicle Type	Nature of Accident				Total Number of Accidents	Five Year Total (1982/83 1986/87)
	Fatal	Pupil Injury	Non-Pupil Injury	Property Damage		
School Bus	5	61	156	515	737	3,599
Van	1	20	43	115	179	830
Station Wagon	—	—	—	1	1	13
Other Buses	—	2	1	2	5	15
Total Accidents	**6**	**83**	**200**	**633**	**922**	**4,457**

Table 6.5 Pupil Injury By Accident Event and Vehicle Type 1986/87

School Vehicle Type	Accident Event						Total		Five Year Total (1982/83 1986/87)	
	Crossing Road		Within School Vehicle		Other					
	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured
School Bus	1	10	—	115	—	8	1	133	6	877
Van	—	—	—	42	—	—	—	42	2	188
Station Wagon	—	—	—	—	—	—	—	—	—	4
Other Buses	—	—	—	2	—	—	—	2	—	2
Total	**1**	**10**	**—**	**159**	**—**	**8**	**1**	**177**	**8**	**1,071**

In the 1986/87 school year over 137 million pupil trips were conducted in school purpose vehicles to and from school. During these trips 177 pupils were injured and one killed. School vehicles were involved in 922 collisions, 83 (9%) of which involved pupil injury.

Since 1982/83, there has been a steady increase in the numbers of pupils being transported in school purpose vehicles, however the injury rate per 100,000 pupils is the lowest since 1982/83 and the fatality rate has remained stable since 1984/85.

6c. trucks

Table 6.6 Class of Truck Accident 1983-1987

Year	Class of Accident			Total
	Fatal	Personal Injury	Property Damage	
1983	429	15,543	37,000	**52,972**
1984	381	17,486	41,953	**59,820**
1985	417	20,149	39,820	**60,386**
1986	416	21,337	41,142	**62,895**
1987	483	25,100	45,589	**71,172**
Total	**2,126**	**99,615**	**205,504**	**302,245**

Table 6.7 Driver Licence Class Required by Class of Truck Accident 1987

Driver Licence Required	Class of Accident			Total
	Fatal	Personal Injury	Property Damage	
G	323	21,173	37,119	**58,615**
D	48	1,707	3,711	**5,466**
A**	112	2,220	4,759	**7,091**
Total	**483**	**25,100**	**45,589**	**71,172**

The Class "G" truck category is dominated by pick-up trucks. As these vehicles are increasingly used for purposes normally reserved for passenger vehicles, the characteristics of Class "G" truck accidents more closely resemble those of automobiles.
**Includes truck/trailer combinations requiring a class "A" licence.

Table 6.8 Driver Licence Class Required—Accidents, Registered Trucks and Accident Rate 1987

Driver Licence Required	Accidents	Registered Vehicles	Accident Rate
G	58,615	846,872	6.9
D	5,466	67,873	8.1
A*	6,720	83,728	8.5
Total	**70,801**	**998,473**	**7.1**

*Tractor/trailer combination only.
Data for truck/trailer combinations requiring a Class "A" driver licence are not reported separately in the Vehicle Registration System.

Table 6.9 Selected Factors Relevant to Fatal Truck Accidents 1987

Factors	Driver Licence Required		
	Class G	Class D	Class A
Driver Condition in Fatal Accidents:			
Alcohol Involved	27.0%	4.2%	0.9%
Driving Properly	41.2%	68.8%	75.0%
Single Vehicle	38.1%	14.5%	10.7%
Vehicle Defect Present	13.6%	20.8%	8.9%
Urban	54.5%	56.2%	25.0%
Daylight	52.6%	75.0%	51.8%

6d. off-road vehicles

Table 6.10 Accident Location by Off-Road Vehicle Drivers Killed and Injured 1983-1987

Location	Killed					Injured				
	1983	1984	1985	1986	1987	1983	1984	1985	1986	1987
On-Highway	3	7	3	6	8	74	51	92	106	97
Off-Highway	4	—	7	2	6	85	70	112	89	79
Total	**7**	**7**	**10**	**8**	**14**	**159**	**121**	**204**	**195**	**176**

Table 6.11 Accident Location by Off-Road Vehicle Passengers Killed and Injured 1983-1987

Location	Killed					Injured				
	1983	1984	1985	1986	1987	1983	1984	1985	1986	1987
On-Highway	1	—	1	—	—	13	19	23	32	32
Off-Highway	—	—	2	3	1	24	16	33	23	22
Total	**1**	**—**	**3**	**3**	**1**	**37**	**35**	**56**	**55**	**54**

Although on-highway use of off-road vehicles is generally prohibited, 52.6% of accidents occurred on-highway. A total of 15 fatalities (6%) and 230 injuries occurred in 1987.

Table 6.12 Registered Off-Road Vehicles 1984-1987

Year	Vehicles Registered
1984	28,368
1985	43,545
1986	53,943
1987	62,038

Off-road vehicles were first required to be registered on June 1, 1984. Off-road vehicles for the purpose of this publication include dune buggies, off-road motorcycles (dirt bikes) and three and four wheeled all-terrain vehicles.

Table 6.13 Selected Factors Relevant to All Off-Road Vehicle Accidents 1987

Factors	%
Drivers Under 25 Years of Age	70
Alcohol Used	23
Speeding	43
Helmet Not Worn	44
Daytime	63
Three-Wheeled	48
Four-Wheeled	20

6e. motorized snow vehicles

Table 6.14 Accident Location by Motorized Snow Vehicle Drivers Killed and Injured — Riding Seasons 1982/83-1986/87

Location	Killed					Injured				
	82/83	83/84	84/85	85/86	86/87	82/83	83/84	84/85	85/86	86/87
On-Highway	4	14	8	6	5	109	193	159	192	137
Off-Highway	5	8	5	9	13	116	149	130	168	143
Total	**9**	**22**	**13**	**15**	**18**	**225**	**342**	**289**	**360**	**280**

Table 6.15 Accident Location by Motorized Snow Vehicle Passengers Killed and Injured — Riding Seasons 1982/83-1986/87

Location	Killed					Injured				
	82/83	83/84	84/85	85/86	86/87	82/83	83/84	84/85	85/86	86/87
On-Highway	—	2	3	—	—	42	59	43	57	49
Off-Highway	2	—	1	1	1	37	42	41	47	45
Total	**2**	**2**	**4**	**1**	**1**	**79**	**101**	**84**	**104**	**94**

From the riding season 1982-83 to 1986-87 about 48% of motorized snow vehicle operator and passenger fatalities occurred in on-highway accidents. For the same period about 53% of drivers and passengers were non-fatally injured in on-highway accidents.

Table 6.16 Registered Motorized Snow Vehicles 1983-1987

Year	Registered Motorized Snow Vehicles 1983-1987
1983	N/A*
1984	169,172
1985	209,290
1986	237,806
1987	263,681

*not available

Table 6.17 Selected Factors Relevant to All Motorized Snow Vehicle Accidents 1986/87

Factors	%
Unlicensed Operators	19
Rider Error; Speed Too Fast	32
Alcohol Used	26
Surface Condition; Icy or Packed Snow	77

6f. bicycles

Table 6.18 Bicyclists* Killed and Injured 1983-1987

Year	Drivers		Passengers	
	Killed	Injured	Killed	Injured
1983	49	4,002	—	14
1984	50	4,263	1	52
1985	42	4,662	1	46
1986	29	4,681	—	41
1987	34	5,093	1	41

*Only accidents involving a bicycle and a motor vehicle or streetcar are required to be reported. These tables do not include bicycle only, bicycle-bicycle or bicycle-pedestrian accidents.

Table 6.19 Light Condition by Age of Bicyclist* 1987

Light Condition	Age Groups						Total
	0-5	6-15	16-29	30-60	61 +	UK	
Daylight	82	1,662	1,716	470	67	432	**4,429**
Dawn	—	2	13	2	—	2	**19**
Dusk	1	83	86	16	—	24	**210**
Dark	3	137	383	76	10	55	**664**
Total	**86**	**1,884**	**2,198**	**564**	**77**	**513**	**5,322**

*Includes Passengers

Table 6.20 Selected Factors Relevant to All Bicycle Accidents 1987

Factors	%
Driving Properly (Bicyclist)	46
Driving Properly (Motor Vehicle Driver)	56
Intersection Related	57
Going Ahead (Bicyclist)	78
Alcohol Related (Bicyclist)	2
No Apparent Vehicle Defect (Bicycle)	88
Clear Visibility	94
Weekend	21

7 conviction and suspension data

Convictions and suspensions both showed slight general increases in 1987 compared to 1986. This is most probably a reflection of a number of factors including an increased number of drivers, and an increase in total distance driven.

Included in the conviction data for the first time are convictions for traffic offences committed by Ontario residents outside Ontario. We do not believe this includes all such violations but rather reflects those violations of which we have been made aware by other jurisdictions which have done so on a voluntary basis. While all such convictions are included in the province-wide total, only convictions for Criminal Code of Canada offences are currently recorded on the individual driver's record. Ontario is currently investigating the possibility of reciprocal agreements on traffic offences with other jurisdictions. The end result would be the inclusion of all out of province violations on the driving record of the Ontario driver while violations committed in Ontario by non-residents would be recorded on their driving records in their resident jurisdiction. For example, an Ontario resident convicted of a traffic offence in Quebec would have the offence recorded on their Ontario driving record provided the offence was equivalent to an Ontario offence, e.g., speeding, disobey stop sign, and vice versa.

7a. conviction data

Table 7.1 **Summary of Motor Vehicle Related Convictions 1987**

Convictions	Number
Highway Traffic Act	1,284,357
Regulation H.T.A	2,890
Criminal Code of Canada*	35,935
Municipal By-Law	28,818
Motor Vehicle Accident Claim/Compulsory Insurance Act	19,816
Total	**1,371,816**

*This figure does not include 429 convictions for young offenders under the Criminal Code.

Table 7.2 **Motor Vehicle Convictions Related to the Highway Traffic Act 1987**

Convictions	Number
Equipment	40,296
Administrative*	92,098
Seat Belt (Driver & Passenger)**	70,065
Other Non-Pointable Convictions***	652
Speeding (< 16 km/h, non-pointable)	405,435
Pointable Speeding	432,998
Other Pointable Convictions (2-4 pt)	213,461
Other Pointable Convictions (5-7 pt)	19,847
Driving While Suspended	11,285
Total	**1,287,247**

*Non-moving, weight, vehicle registration, licence renewal etc.
**Failure to wear seat belt convictions registered against passengers over 16 are no longer included.
***Now includes some out of province convictions.

Table 7.3 **Motor Vehicle Convictions Related to the Criminal Code 1987***

Convictions	Number
Alcohol Related	32,312
Criminal Negligence	36
Fail to Remain at Accident	1,220
Driving While Disqualified	1,239
Dangerous Driving	1,128
Total**	**35,935**

While the number of alcohol related traffic convictions under the Criminal Code showed a slight increase from 1986 the volume for the second consecutive year is over 30% lower than 1985.
*Does not include 429 convictions for Young Offenders.
**Now includes some out of province convictions.

7b. suspension data

Table 7.4 **Mandatory Suspensions Related to Criminal Code Convictions Issued 1987***

Suspensions	3 Months	6 Months	1 Year	2 Years	3 Years	Total
Criminal Negligence (s. 203, 204)	—	—	—	—	—	—
Motor Manslaughter	—	—	—	—	—	—
Criminal Negligence (s. 233-1)	4	1	7	3	7	**22**
Fail to Remain (s. 233-2)	22	8	675	305	156	**1,166**
Dangerous Driving	21	14	551	290	201	**1,077**
Impaired Driving (s. 234)	221	105	6,257	4,297	2,647	**13,527**
Blood/Alcohol over .08	193	87	7,486	4,487	2,530	**14,792**
Failure to Provide Breath Sample	63	25	1,208	875	512	**2,683**
Failure to Provide Roadside Breath Sample	8	1	—	—	1	**10**
Drive while Disqualified of Prohibited	—	—	1,031	175	27	**1,233**
Total	**532**	**241**	**17,215**	**10,432**	**6,081**	**34,510**

*Total issued during the calender year.

New federal and provincial laws relating to drinking and driving took effect December 20, 1985. Individuals convicted of offences which occurred prior to that date were not subject to the longer mandatory suspension periods of the new laws. Previously, the minimum suspensions imposed for a conviction for a driving violation under the Criminal Code of Canada were 3 months for a first conviction, 6 months for the second conviction within five years and 3 years for a third conviction within five years. The new minumum suspension periods are 1 year for a first conviction, 2 years for a second conviction within five years and 3 years for a third conviction within five years.

The number of drivers convicted under the Criminal Code of driving while disqualified or prohibited increased substantially from 355 in 1986. The applicable Section of the Criminal Code was also amended in 1985 and it is believed the increase is reflective of the application of the provisions of that section rather than necessarily an indication of an increase in the number of drivers driving while disqualified due to the lengthier mandatory suspension periods.

Table 7.5 **Mandatory Suspensions Related to Criminal Code Convictions at Year End 1987***

Suspensions	3 Months	6 Months	1 Year	2 Years	3 Years	Total
Criminal Negligence (s. 203, 204)	—	—	30	18	11	**59**
Motor Manslaughter	—	—	—	—	—	—
Criminal Negligence (s. 233-1)	1	—	31	17	37	**86**
Fail to Remain (s. 233-2)	4	3	715	452	354	**1,528**
Dangerous Driving	3	4	662	413	357	**1,439**
Impaired Driving (s. 234)	39	22	6,611	6,104	5,272	**18,048**
Blood/Alcohol over .08	25	30	7,727	6,228	4,293	**18,303**
Failure to Provide Breath Sample	7	6	1,242	1,238	1,167	**3,660**
Failure to Provide Roadside Breath Sample	—	1	—	—	63	**64**
Drive while Disqualified of Prohibited	—	—	1,308	191	31	**1,530**
Total	**79**	**66**	**18,326**	**14,661**	**11,585**	**44,717**

*Total as of December 31, 1987.

This table reflects the suspensions in effect at year end. The total exceeds the number of suspensions issued in 1986 due to the fact that some suspensions are in effect for more than one year.

Table 7.6 **Demerit Point Suspensions by Driver Age 1987**

Driver Age	Demerit Point Suspensions		
		Non-Probationary	Non-Probationary
		First	Second
	Probationary	Accumulation	Accumulation
16	521	—	—
17	2,554	—	—
18	3,532	10	—
19	2,180	125	—
20-24	5,146	1,815	142
25-34	2,882	1,396	118
35-44	701	441	38
45-54	184	141	13
55-64	65	52	5
65-74	15	12	1
75 +	—	1	1
Total	**17,780**	**3,993**	**316**

Newly licensed drivers are covered by the probationary licence system until they have successfully completed two one-year periods of suspension free driving. Probationary drivers are suspended for 30 days after accumulating 6 or more demerit points. Non-probationary drivers are suspended for 30 days on the first accumulation of 15 demerit points and are suspended for 6 months on the second accumulation of 15 points within 2 years.

Continuing the trend for many years, the preponderance of traffic convictions have been registered against male drivers. As an example, more than 90% of demerit point suspensions were applied against male drivers.

8 appendix

8a. glossary of terms

Ability Impaired Alcohol:
Driving while one's ability is impaired by alcohol or driving with a blood alcohol concentration exceeding 80 milligrams in 100 millilitres of blood.

Alcohol Involved:
This category includes both drivers reported as ability impaired by alcohol and drivers reported as had been drinking.

Class L Driver's Licence:
The learner's licence that allows the holder to drive any motor vehicle that requires a class G driver's licence(e.g. an automobile) on the road, providing that the holder of a class G licence or any other higher licence class (A,B,C,D,E and F) is occupying the seat beside him/her for the purpose of giving instruction.

Class R Driver's Licence:
The learner's licence that allows the holder to operate a motorcycle for the purposes of training. Class R licensed motorcyclists are prohibited from nighttime riding, carrying passengers and travelling on high speed highways with exceptions of Highways 11 and 17.

Conviction:
Awarded when a person pleads guilty to, or is found guilty of, an offence related to a motor vehicle under any Act of the Ontario Legislature or its accompanying regulations, under the Parliament of Canada or any accompanying order, or under any municipal by-law.

Driver:
Unless specified otherwise, any person, whether licensed or not, considered to be in care and control of a motor vehicle at the time of an accident.

Fatal Accident:
A motor vehicle accident in which at least one person sustains bodily injuries resulting in death. *

Had Been Drinking:
Driving after having drunk an amount of alcohol not considered sufficient to be legally impaired or with a measured blood alcohol count of greater than zero but less than 80 milligrams.

Highway:
A common and public highway, street, avenue etc., any part of which is intended for public use or used by the general public for the passage of vehicles and including the area between the property lines.

Kilometres Travelled:
Vehicle fleet mileage is estimated on the basis of taxed gasoline and motor fuel sales. Total litres sold are converted to kilometres travelled based on a conversion factor of 22.0 kilometres per gallon.

Major Injury:
A non-fatal injury severe enough to require that the injured person be admitted to hospital, even if for observation only.

Minimal Injury:
A non-fatal injury, including minor abrasions and bruises, which does not necessitate the injured person going to a hospital.

Minor Injury:
A non-fatal injury requiring medical treatment at a hospital emergency room, but not requiring hospitalization of the involved person.

Motor Vehicle Accident:
Any incident in which bodily injury or damage to property is sustained as a result of the movement of a motor vehicle, or of its load while a motor vehicle is in motion.

Off-Highway Accidents:
An off-highway accident involving any of the motorized vehicles which are covered by legislation under the Highway Traffic Act, the Motorized Snow Vehicles Act, and the Off-Road Vehicles Act.

On-Highway Accidents:
A motor vehicle accident which occurs on the highway, between the property lines.

Pedestrian:
Any person not riding in or on a vehicle involved in a motor vehicle accident.

Personal Injury Accident:
A motor vehicle accident in which at least one person involved sustains bodily injuries not resulting in death.

Property Damage Accident:
A motor vehicle accident in which no person sustains bodily injury, but in which there is damage to any public property or damage to private property * * including damage to the motor vehicle or its load.

Reportable Accident:
Any fatal or injury accident, or any accident in which there is any damage to public property or damage to private property in excess of a monetary value prescribed in law. * *

Suspension:
Withdrawal of a driver's privilege to operate a motor vehicle for a prescribed period of time.

*Prior to January 1, 1982, fatal accident statistics included deaths attributed to accidental injuries up to one year after the accident. Since that date, only deaths from injuries within thirty days of the accident have been included.

* *The minimum reportable level for property damage only accident rose from $200 to $400 on January 1, 1978 and rose again to $700 on January 1, 1985.

8b. ministry of transportation highway safety publications

Driver's Handbooks
The Drivers's Handbook
Driver's Manual for Adult New Readers
Motorcycle Driver's Manual
School Bus Manual
Truck and Bus Manual
Recreational Vehicles Handbook
The Bicyclist's Handbook

Driver Instruction
Road Worthy (Textbook, Classroom Teacher's Manual
In-Car Teacher's Manual)

Drinking and Driving
Drinking and Driving-Smashed (Pamphlet)
Drinking, Driving and the Law (Slide Presentation)
Three For the Road:
1. Power Under Control
2. The Alcohol You
3. No Thanks I'm Driving (Film Trilogy)

Seat Belts and Child Restraints
What You Should Know About Seat Belts (Pamphlet)
Seat Belt (Poster)
Life Is Precious (Child Restraint Pamphlet, Poster)
Protect Your Children (Pamphlet)
Child Restraint Manual (Manual for Educators and Persons Organizing Rental Programs)
Seat Belt-Fairy Car Father (Teacher's Handbook, Comic Book, Decals)
The Human Collision (Film)
Dice In a Box (Film)
Life Is Precious — Buckle Them In (Film)
Citizen Seat Belt (Film)

Motorcycles
Ontario Motorcycling Facts (Pamphlet)
All Those Who Like To Ride (Drinking and Riding Poster)

School Vehicles
School Bus Stopping Law (Pamphlet, Poster)
Driver Improvement Course for School Bus Drivers (Instructor's Manual, Test Sheets and Certificates)
School Bus Drivers Have A Big Responsibility (Folder, Pamphlet)
How We Ride (Colouring Book, Poster)
Duties of Patrollers (Folder)
Sam the Safety Duck — On the Buses (Pamphlet, Film, Decals)
Death Zones (Film)

Off-Road Vehicles and Motorized Snow Vehicles
1985 Ontario Off-Road Vehicle Statistics (Pamphlet)
1985/86 Ontario Motorized Snow Vehicle Facts (Pamphlet)

Bicycles
Bicycle Safety Program (Instructor's Manual, and Supplies)
Sam the Safety Duck — Bicycle Safety (Film)
Bicycle Safety — Teens and Adults (Posters)
Cycling Skills — A Guide for Teen and Adult Cyclists (Brochure)

General
Good Driving Practices (Pamphlet)
Guide for Disabled Drivers (Pamphlet)
Pedestrians (Pamphlet, Poster)
Senior Citizens (Pamphlet)
Winter Driving Tips (Pamphlet)
Sam the Safety Duck — On Winter Safety (Film)
Power Under Control: ***Limits of Performance (Winter Driving Film)***
Seconds Can Save (Pamphlet)
Daytime Driving Lights (Poster and Pamphlet)

NOTE: For copies of any of this material contact:
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